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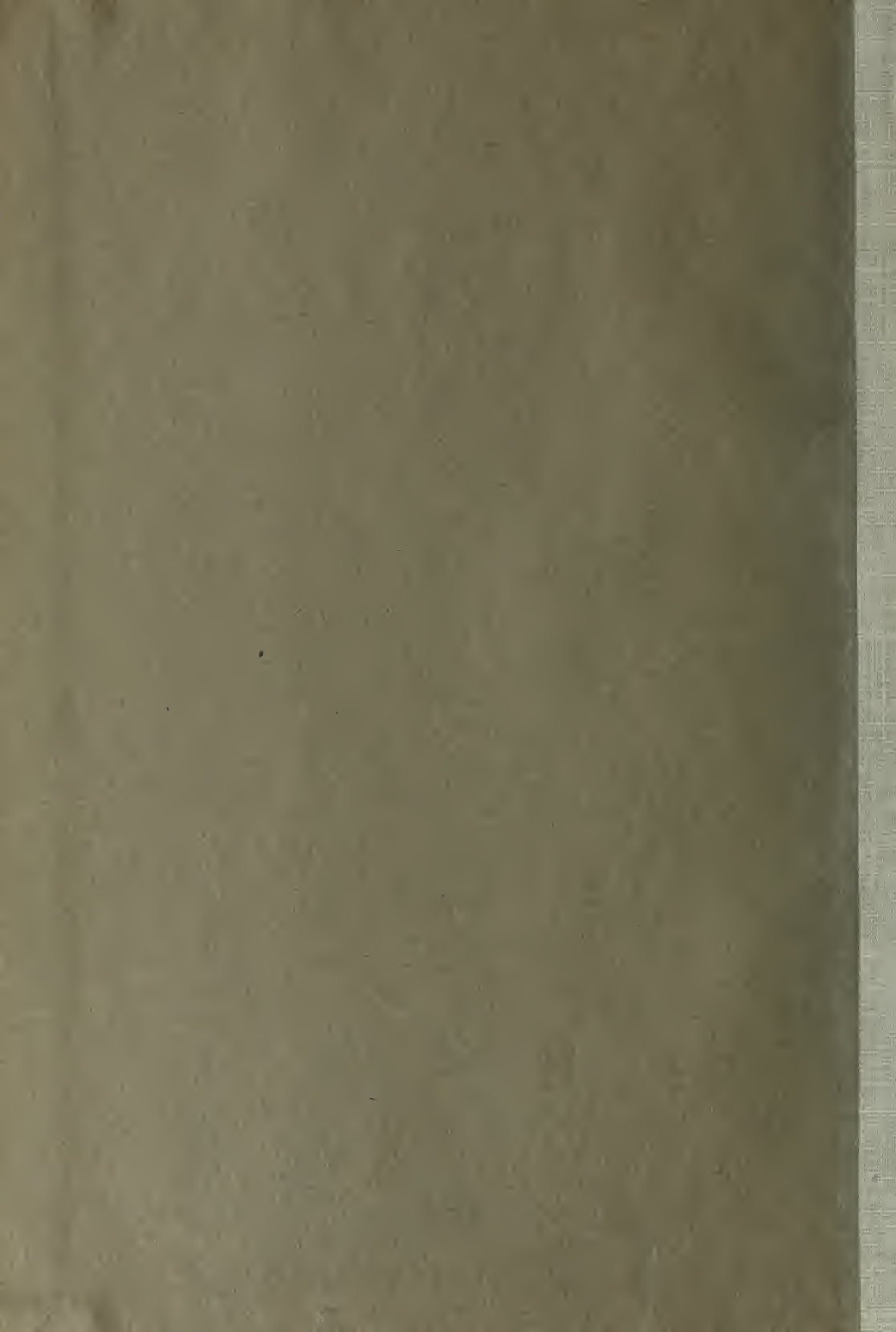
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The Object of the Association is the Scientific Study of the Mental and Physical Condition of Children, and also of Educational Methods, with a view to gaining greater insight into Child-nature and securing more sympathetic and scientific methods of training the young.

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The Journal of the Child-Study Association.

Vol. IX.—No. 1.

FEBRUARY, 1916.

Norms of Performance in Reading.

By P. B. BALLARD, M.A., D.LIT.

What is the fundamental and essential factor in the ability to read? Binet seems to assume it to be fluency; for the scale for marking reading in his "Barème d'Instruction" is based upon the frequency of such pauses as are not necessary to elucidate the meaning of the passage read. The examinees are classified according as they pause after the letters, the syllables, the words or the phrases. A more recent investigator (Daniel Starch, "The Measurement of Efficiency in Reading," *The Journal of Educational Psychology*, vi. 1, p. 2), discriminating between the silent reading we do for our own use and pleasure and the oral reading we do for the benefit of others, claims the former to be the more important, and selects the comprehension of the material read as the first essential, and speed of reading as the second. Compared with these, intonation, expression and pauses he regards as unimportant. For this point of view there is much to be said. It is significant of that happy change which is taking place in our schools—the change from reading as an elocutionary display (a very indifferent one at best) to reading as a pleasurable pursuit. But comprehension is a very difficult thing to measure; and it presupposes a more rudimentary ability which is quite easy to measure—the ability to translate certain visual symbols into sounds, whether those sounds are actually produced or are merely imagined. This is the basal ability—the *sine qua non* of reading—the step which no amount of intelligence would enable the learner to dispense with. His intelligence will, of course, eke it out; it will enable

him to anticipate coming words, to respond to slighter cues; but ultimately his power to read is rooted in his ability to translate symbols into sounds, and this fundamental ability is what I set out to measure. It is not the whole of reading; but it is the basal and indispensable part, and it is the part which best lends itself to exact measurement.

The test I adopted after some preliminary experiment is on the next page.

The pupil was given a paper on which the test was printed as above, and was asked to read as fast and as carefully as he could until he was told to stop. The number of words correctly read in a minute—that is, the total number read, minus the number misread—gave the score. If the examinee hesitated for more than five seconds over a word and did not seem to be on the point of saying it, he was prompted and told to pass on, that particular word counting as an error. He was thus prevented from being too heavily penalised by his inability to recognise one or two particular words.

It is quite clear that the test does not take intelligence into account; it is designed to measure the bare mechanical art of reading—the degree of facility with which a pupil can translate the symbols of the simplest and commonest words of the mother tongue into the words themselves. Sense material was discarded as tending to confuse the issue. If an intelligent lad, for instance, starts reading a fairy tale which begins "Once up on a time," the recognition of the first word brings inference into play, and the rest of the phrase is largely a matter of memory. But no such intelligent anticipation is possible in the test used; each word, standing isolated in meaning, has to be read without any help

ONE MINUTE READING TEST.

is me on at by so us an it or be
to as he of in go up am if no we
my ox do the and for but him
are can she lot let you not was
out try see mix van now boy saw
bit met top run man pet cat get
did dog bad red cup bee lit pin
had ran pen nut big old yet rob
run leg fun lip new fog has sit
sly wig mud box ink sat end cut
pay fed who six lad wet dry cow his
peg tin say eat any far set bud kid pup
fox ask egg cab ill use jam all pit got
sad tea sky one yes fur act toe her our
ten arm rock gone feel that rich till long
flat this part foot made upon came mile
back sand time said then wall into were
done walk much loss seem went come

from the context. It has to be read, not inferred.

Much scorn has been levelled at this type of reading. It has even been denied that it is reading at all, and has been contemptuously called "barking at print." But my investigation tends to show that this mechanical response to the seen word, this barking at print—call it what you will—is not only the basis of all reading, good as well as bad, but is also a trustworthy criterion of the interest with which reading is followed as a pursuit.

As a test common to children of different schools and different ages, it possesses many points of advantage. Familiarity with subject-matter, which must always be a variable and disturbing factor where sense material is used, does not enter into the question: there is no subject-matter. A peculiar knowledge of uncommon words avails nothing: there are no uncommon words. However young a child may be, however rudimentary his knowledge, if he can read at all, he can read some of the words in the first three lines; for all the common two-letter words in the language are to be found there. And however proficient a child may be he will find the task of reading the whole of the one hundred and fifty-eight words in one minute quite as much as he can accomplish.

But these *a priori* reasons in favour of the test do not dispense with the necessity of testing the test—of comparing, for instance, the results obtained by using this test with those obtained by using sense material, such as an "unseen" passage in the ordinary school reader. Such a comparison I carefully made with ten boys of about eight years of age. The mode of scoring was in each case the same—the number of words correctly read in one minute. The first point to be noted is that, although thirty-two per cent. more words were read per minute in the continuous prose than in my test, the order of merit was, with one trifling exception, the same in both cases. To test one kind of reading is virtually to test the other.

The second point to be noted is that the discrete material gives a higher degree of reliability or steadiness; for when the

children were put to read the same passages again after five minutes' interval, they improved but seven per cent. with the discrete words as compared with an improvement of twenty-two per cent. with the continuous prose. The seven per cent. improvement was perhaps entirely due to a loss of nervousness; but most of the improvement in the other case was doubtless due to the acquired familiarity with the meaning. As a test, therefore, the discrete words are better suited for repeated use.

In estimating the speed of reading, it is well to be clear what precisely we are measuring. For there are four possibilities. We may measure the normal or the maximal speed of either oral or silent reading. The speed measured in this test is the maximal for oral reading.

The question may be raised: How far is the recorded speed a real index of the speed of reading as distinct from speed of articulation. There is little doubt that adults can read silently very much faster than they can read aloud—very much faster than they can articulate the words. But this is not true of a young child. I found by testing a number of children of seven years of age that they could speak or recite at the rate of one hundred and seventy words per minute, while they read the test words at the rate of forty per minute. Again, girls of nine-and-a-half years old who read eighty words per minute were able to recite two hundred and twenty words per minute.

The test was given in forty-nine schools to 11,588 boys and 11,082 girls. The scores given below indicate the average number of words read in one minute:—

TABLE I.

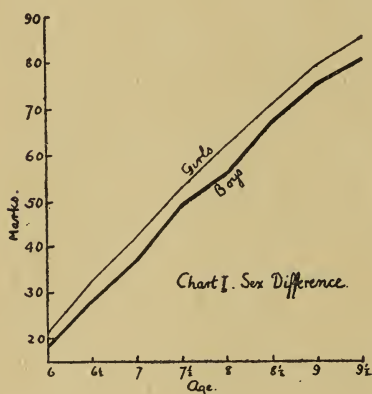
Age.	Averages			
	actually Boys.	obtained. Girls.	Probable Boys.	Norms. Girls.
6 — 6½	18.4	21.2	18.	21.
6½ — 7	28.4	32.6	28.	33.
7 — 7½	37.3	42.5	38.	43.
7½ — 8	49.1	53.1	48.	53.
8 — 8½	56.2	62.4	58.	63.
8½ — 9	67.6	71.2	68.	72.
9 — 9½	75.6	79.4	76.	80.
9½ — 10	81.3	85.9	82.	86.
.....				
13½ — 14	115.	122.4	115.	122.

TABLE II.

Comparison of Schools in Good and Poor Districts.

Age.	Schools in Slums. (10)		Schools in good Neighbourhoods. (9)	
	Boys.	Girls.	Boys.	Girls.
6 — $6\frac{1}{2}$	17.8	19.4	17.8	26.9
$6\frac{1}{2}$ — 7	24.8	26.2	37.1	41.7
7 — $7\frac{1}{2}$	32.3	33.3	47.9	53.8
$7\frac{1}{2}$ — 8	43.4	39.8	60.2	64.0
8 — $8\frac{1}{2}$	51.2	51.9	66.6	69.0
$8\frac{1}{2}$ — 9	63.0	62.2	80.5	81.2
9 — $9\frac{1}{2}$	70.2	66.6	85.5	90.5
$9\frac{1}{2}$ — 10	77.4	76.7	92.0	94.6
.....				
$13\frac{1}{2}$ — 14	112.8	112.2	122.6	127.1

The progress with age may be readily seen from Chart 1. Generally speaking, a steady gain of twenty words per annum is observable from six to nine years of age, after which the rate of gain begins to slow down.



The original experiment stopped at ten years of age; for I did not regard the test as suitable for older children, with whom the mastering of the mere mechanical factor may, as a rule, be taken for granted; but, as an afterthought, I extended it so as to include children between thirteen-and-a-half and fourteen. The results show a considerable flattening of the curve after ten, the average gain per annum being reduced to less than nine.

Distribution of Marks. In order to ascertain the mode of distribution the individual scores of 514 boys and 540 girls between nine and nine-and-a-half years of

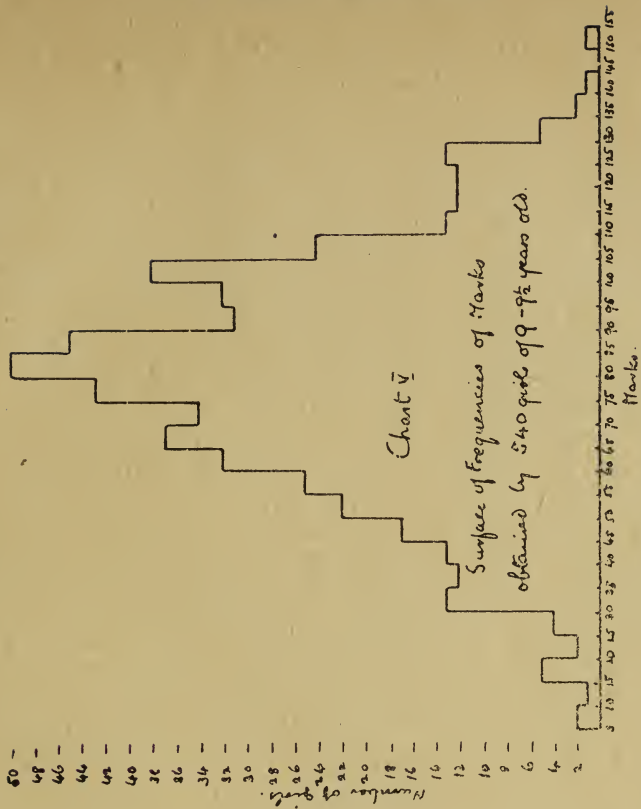
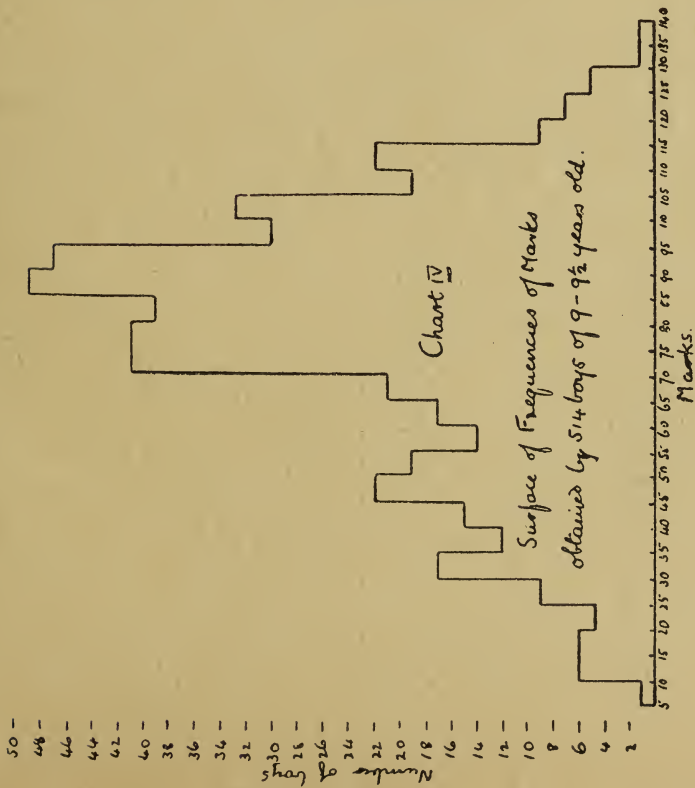
age were examined and arranged so as to show the surface of frequencies (see Charts 4 and 5). The average mark for the boys was 77.4, and for the girls 80.5. It will be seen that the distribution does not depart widely from the normal. That of the boys is more "skew" than that of the girls, the node being higher although the average is lower. The girls' marks show the usual characteristic of the sex; they are more closely grouped about the central measure.

Home Influences. Among the forty-nine schools I included ten which were reputed to be attended by the poorest children in London; and the figures in Table 2. (and in Charts 2 and 3) enable the reader to compare these schools with those situated in good residential areas. It will be seen that both boys and girls in good neighbourhoods are about six months (ten marks) in advance of the average; and in poor neighbourhoods the boys are three months behind, and the girls six months. Thus for the extreme types of home we find a difference of nine months for boys and twelve months for girls. A girl of eight in Dulwich can read as well as a girl of nine in Bermondsey.

Through the courtesy of a friend, I was enabled to secure results from six elementary schools in Lancashire. In general tendency they tallied with the London results; but the Lancashire boys were three months ahead of London boys, and the girls four months ahead. The six schools, however, included no poor schools, and there is reason to believe that the social conditions were above the average.

There is nothing to indicate whether the superiority of the children from good homes is due to heredity or environment—to higher native ability or to better opportunities. Both probably contribute.

Sex Differences. The statistics obtained lend support to the popular belief that girls read better than boys. Generally speaking, they are five marks or three months ahead. But it is a curious fact that this difference does not obtain in slum neighbourhoods. There the boys read quite as well as the girls. This is not merely true of the ten schools taken in a lump; but,



(The blocks for the five charts have been kindly lent by Professor J. A. Green, Editor of The Journal of Experimental Pedagogy).

with one exception, of each of the ten schools individually. Whatever the reason may be, whether it is due to the girls being more fully employed minding the baby—there generally is a baby—or doing domestic work, or whether this intrinsic sex difference does not hold good generally, the fact itself seems to admit of little doubt.

Number of Errors. Occasionally a reader rushed through the test with little regard to accuracy, and thus made a fairly high score in spite of many blunders; whilst another reader would proceed more cautiously and secure a lower score although he made no blunders at all. The majority, however, maintained a steady level of cautiousness; and on an average about three mistakes were made by children of all ages. This means that accuracy improved with age and was roughly proportional to speed; for to get three mistakes out of eighty-six words read (see score for girls of nine-and-a-half to ten) was about four times as creditable as to get three mistakes out of twenty-one words read (score for girls of six to six-and-a-half).

Method of Teaching. The method of teaching reading in all the schools tested was some form of the phonic. The alphabetic method pure and simple may be said to be obsolete in London, although the children are generally taught the conventional names of the letters either at the same time as their phonic values or after the art of reading has been at least partly acquired. The "look and say" mode of reading, into which all other forms ultimately merge, is to a greater or lesser degree incorporated in the other systems. In fact, the system in vogue is mixed, with the phonic element predominating. There are, however, various forms of the phonic method current, some simple and some complex.

Perhaps the most systematic and complex of all is the Dale method; and in nineteen out of the forty-nine schools this method is followed. Do the scores at these nineteen schools afford evidence of the superiority of this system? How do they

compare with the scores of the thirty non-Dale schools? Taken as a whole, the Dale boys are one month behind when they are under seven years of age, and two months in advance after seven; while the girls are two months behind when under seven, and two months ahead after seven. But five of the nineteen Dale schools are included in the nine schools above referred to as situated in the wealthier neighbourhoods. And if the influence of home and district be eliminated, it is doubtful whether the Dale results are as good as the non-Dale. It is certain that they are no better.

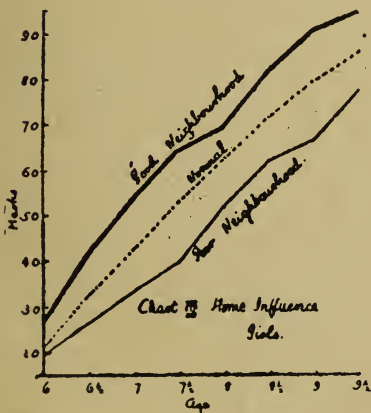
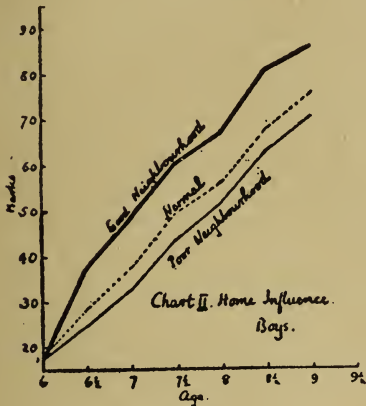
Here is a system of high repute, regarded indeed by some as the mark of up-to-dateness in infant teaching—a system requiring special training on the part of the teacher, and involving the use of special apparatus and special books; but, judging from the results achieved, it is no better as a means of teaching reading than the ordinary phonic system in common use. It is true that it has other merits. It includes other things besides reading proper, such as printing, drawing, and phonetic analysis—things in themselves valuable; but taken purely from the reading point of view, it fails to substantiate the high claim generally made on its behalf.

What then is the salient characteristic of method in the schools where the test shows reading to be exceptionally good? It is this: in the good schools reading is encouraged as a pursuit, and not merely taught in a series of lessons. The children read for the sake of the story, not for the sake of reading. It is a pleasurable occupation, and not a tiresome phonetic drill, nor yet an elocutionary display. Phonetic drill and elocution have their place in school routine, but the root of proficient reading grows in other soil. In the school where the reading is best of all even children of six read small fairy-tale books for pleasure.

There is one arresting exception to the above generalisation. In a certain infant school where no private reading takes place, but a large amount of word building is taken on the blackboard, the result reaches high-water mark; but in the senior

school the curve sinks to the normal: the proficiency is not maintained. It will thus be seen that the same apparent results may be obtained in the earlier period by opposed methods; but while the momentum is kept up by the one method, it is lost by the others. As ever, it is a question of interest.

Limitations of the Test. It should be clearly understood that this test, consisting as it does of words of no connected meaning, is intended to be used as a test



only, and never as material for practice, nor even as suggesting the type of material for practice; for I strongly hold the view that in selecting reading books for children, subject-matter is a consideration of supreme importance. If the subject is of no interest to the child, if it would not grip his attention when read to him instead of by him, then we must regard it to be of the wrong sort, unless, indeed, we

reject the view that the main aim and purpose of the teacher of reading should be to hasten the coming of the time when the child will spontaneously take up a book and read it for the sake of what it has to tell him.

And although the test is oral, it must not be inferred that practice should be entirely oral, or indeed mainly oral. For the out-of-school reading, for which the school reading is a preparation and a training, is almost entirely silent; it is reading as a device for getting ideas. And the training of any specific activity should always, as far as possible, take the form of activity. It is not always possible. At the earliest stage of reading, for instance, much drudgery in associating symbols with sounds is necessary before the process is sufficiently mechanised for the sense of what is read to stand out clearly and predominantly in the mind. Indeed, for some time, the child, unless he reads aloud—unless there is somebody for whom he feels he is doing something—will not read at all. But the sooner this stage is passed the better.

Again, fluent reading, regarded merely from the mechanical point of view, is mainly a matter of practice, and the amount of practice given in school, especially where individual class reading—reading in turns—is adopted, is so small that many years pass before a fair degree of fluency is attained.

The reasons are now clear why I regard this test as useful for the early stages of reading only. As the child grows older the aspect of reading which becomes increasingly important is the extent to which it can be employed as a thought-getting device—the accuracy and rapidity with which the child absorbs the meaning of what he reads privately.

It has often been pointed out that to read mechanically is one thing; to understand what is read, another. And although it will be granted that a child may do the former without the latter, it is equally certain that he can never do the latter without the former. Until, indeed, a child can read about one hundred of the test

words per minute, the mechanical art of reading cannot be said to have been mastered; and the utilisation of the test is profitable as a means of measuring his fluency; which is roughly a measure of the practice he has had; which, again, is roughly a measure of the interest he takes in reading. Beyond that stage other tests overshadow the mechanical one. Reading, indeed, cannot in any sense be regarded as a simple process, nor can the same means be adopted for measuring proficiency in the earlier and later stages of acquiring the art.

Social Aspects of the School.

By MISS AMY F. PURVIS.

In this day of social inquiry and attempts at social reform and legislation, perhaps it may not be out of place to consider the social side of school life, and the spirit which youth carries from the school society to the large community without. It is a comparatively short time since it was borne in upon English teachers that the school was a living cohesive community. A still shorter time has elapsed since this was realised by our education authorities. In point of fact I believe it is scarcely ten years ago that a paragraph was for the first time inserted in the Code of the Board of Education to remind the teacher of the importance of "the corporate life of the school." Before that the school had been simply a collection of individuals. True they were taught in the mass, but the idea that they might learn as much or more that was valuable from one another than from the teacher had not yet dawned.

The early connotation of the term "school" was a number of scholars mastering, or trying to master, individually certain material. This individualistic attitude to education was strengthened by the fact that the world's first great educational reformers treated the subject in the same manner. They did not consider the education of mankind, but the education

of the individual. They were for the most part private tutors who, in their educational treatises, discoursed on the education of a prince, the education of a gentleman, and so forth. For instance, there was Rousseau, who was concerned with the education of "Emile," also Locke, who taught one boy, the son of a gentleman, and Herbart, who was a private tutor to three boys. Although the latter enlarges on "The Science of Education," we cannot read his work without being reminded again and again that he bases his generalisations on insufficient experience. Froebel wrote largely about his experiences as tutor, though he and Pestalozzi had undoubtedly a much wider experience, and treated education from a wider standpoint than their forerunners.

Child-study and psychology, too, have made great progress with the consideration of the individual, but group or crowd psychology is still in its infancy.

To-day, as teachers, we realise that a group of children must necessarily be a society even apart from any conscious attempt on the part of the educator to foster or prevent community life, because, first of all through the mere sitting side by side, children act and react upon one another. Mind, as someone has said, acts upon mind largely in the region of sub-consciousness. Then there is the meeting of pupils on the way to and from school, and at recess, with all the attendant quarrels and hand-to-hand fights, bartering of treasured possessions and sharing of lunches. In the class-room they hear the same thing being said by different people in different ways, sometimes in different words, and best of all they sometimes hear different points of view. It is evident, therefore, that the school, even in the good old days, was a society, though that society may not have been of the best kind.

The serious consideration of social life in English schools may be said to have taken its rise with Arnold of Rugby, who recognised the school playground as a potent factor in education. He was the first to proclaim publicly that the playing-

field, with the social influence which it generated, had an important bearing on the boy's subsequent behaviour as a social unit.

With him also originated the "monitor" and "fag" systems. He saw that the older boys in a community have a decided influence on the younger ones, and he recognised and legalised this influence by placing authority and responsibility in the hands of those whose characters implied that they would be able to use it. He also gave active approval to a period of servitude for the new recruits. No doubt these systems of monitors and fags have been abused at times. We have heard of instances where a fag has been bullied unduly, or a monitor has wielded too harsh an authority. But they contain two very important factors of social life, authoritative responsibility and servitude, two factors which boys and girls must realise in their own persons before entering the larger arena of life.

Another contribution made by Arnold to school sociology was his recognition of the value of the house system. He saw clearly that the individual is liable to get swamped in the large school; therefore it was better to let him be associated with a smaller group—to let him belong to a "house"—while at the same time he could share the larger interests of the whole school. He could strive to improve the standard of his own particular house in intellectual pursuits, in games, and at the same time he could cheer for the school team when it went forth valiantly to do battle.

The social side of school life has developed considerably along these lines since Dr. Arnold's time, especially on the games' side, which has become a distinctive mark of English education. Games and games' clubs are now recognised as an important part of every school. The boys and girls realise the necessity for honour, justice, obedience, combination of labour, social service, and dependence, in a very personal and particularly convincing way, while at the same time they have the collective experience of account keep-

ing, secretarial work, and general organisation which must necessarily devolve on the committee of a games' club. All these things have a value scarcely to be overestimated for the future member of the State.

All these developments of corporate life were concerned only with out-of-school organisations, and assumed that the scholar is not influenced by the social environment of the class-room. It was only after the introduction of handicrafts that there gradually came division of labour in the class-room, and attempts at the socialisation of the curriculum.

When manual work became a part of the curriculum it was soon discovered that in many cases a more effective piece of work could be carried out if several scholars linked their efforts than if only one worked alone. With "group work" came the sinking of self in the interests of the group.

Later this idea of group work was carried over into the more distinctively intellectual pursuits of the school; and we began to have collective study, teacher and children engaged upon—shall we be fashionable and call it a piece of "research"? Each member of the group contributed his mite of knowledge to help solve the problem of the class. The later developments of dramatisation in class-teaching, where the class acts its own original plays before writing them out, are also important in this connection.

Further developments of school life having a social bearing are the attempts to influence the outside community through direct instruction in the school. With this aim in view we find at different periods that teachers have included in their time-tables such subjects as domestic economy, mothercraft, civics, citizenship, and so forth.

A daring attempt at social schooling was carried out some years ago in America, and is well known as the George Junior Republic. The school is for children over twelve years of age, and its constitution imitates as closely as possible the constitution of the United States.

There is the boy president, whose veto can be set aside only by two-thirds' vote of the congress; there are courts, boy guards, a jail, a boy police force, etc. A very successful development of this has been carried out in England, viz., the Little Commonwealth, Dorsetshire. Both are attempts, and have proved very successful attempts, to reclaim the street hooligan and degenerate.

It is possible that such detailed organisation would be unnecessary where one was dealing with more normal material. For normal children the recent attempts at camp schooling are worthy of study as throwing valuable light on the question of corporate life.

Before examining in detail our present-day school community and the influence that it exerts, let us consider the community around the school, be it city or village, and its bearing on our work. Many of us are apt to think of this community only as interfering parents, and as such we try to ignore it, or if it won't be ignored, then we try to cultivate a thick skin. No doubt for persons engaged in any kind of public work a thick skin is a primary requisite, nevertheless it seems clear that where there is not active co-operation between school and parents, between school and community, the school labours under a severe disadvantage.

Undoubtedly the community, whether we desire it or not, exerts both directly and indirectly a very powerful influence on the school. The children bring into the school the language, the dialect, the accent, and the traditions prevailing in the district. This influence cannot be ignored, as anyone will agree who has tried to eradicate a local expression or accent in a school. There is a certain sentiment attaching to local expressions, and often those words and phrases, which we would scornfully sweep away with the conscious superiority of the twentieth century, are merely survivals of what in times gone by was current King's English.

But surely it is not desirable that we should ignore this influence; rather must we study it and build on it, for we must

use the community and its traditions in every way we can. Not only the modern handicrafts, arts, customs, dress, amusements of the neighbourhood should be used, but those also which are traditional, everything in short which goes to make up the social group in which the school is placed. In the agricultural counties let farming and gardening form the pivot of the curriculum. Incidentally valuable work may be done in collecting weather records day by day; by monthly summaries of these average monthly temperatures, maximum and minimum rainfall, distribution of winds; when the early and late frosts occur, and a store of other information may be obtained. Let the children of Lancashire and Yorkshire learn to spin and weave; let the boys fashion the spinning wheel and hand loom in their school workshop; let the children dye the natural wool, using, not acid dyes, but the old peasant dyes, madder, lichen, heather, and seaweed, which are still used by the peasants of Ireland, Scotland and elsewhere to dye the wool from which they weave those matchless tweeds which no modern acid and machinery can rival.

Again, in the English towns, especially in those in the North, where the miracle plays were played by the townsfolk for the townsfolk in bygone ages, why should not the children write and act (or, as Mr. Caldwell Cook puts it, act first and write afterwards) miracle plays of their own? Is it not probable that they would find profit in such pursuits?

A flagrant example of how the environmental element may be neglected was reported to me some time ago from New Zealand: in several schools in that country art teaching aims at reproducing the art school ideals of this country, with the consequence that the rich realms of Maori art, with which children and teachers are surrounded, is disregarded.

In preserving and strengthening this vital relationship between the school and its environment the school festival is helpful. With this end in view a "civic day," to celebrate the beginning of the municipal year, was held at the Fielden Demon-

stration School, Manchester. The boys and girls prepared for the event beforehand, that they might be not merely emotionally stimulated for the moment, but also intellectually influenced. Parties of children visited the Town Hall and various municipal works, such as the city electrical works, tramway centre, and prepared accounts of these visits to be read to the school.

Such festivals—and the school party, Christmas, May Day and other festivals fall into the same category—may become channels of friendly intercourse between parents and the school. We must have the co-operation of parents, for school life is only a portion of the child's life, the home interests are large, and if the two are not linked there is a break in the child's life which is detrimental. The two never can be linked unless there is sympathetic understanding between parents and teachers. As a means of fostering such understanding the school party or parents' evening has in many schools proved valuable.

That the influence of the community may be utilised to the fullest, it is important that the teacher should live in the community; that is, that the rural school should be taught by the teacher who lives in the country, and cares for the things of the country, and can enter into and appreciate the joys and sorrows of country folk, and not by the townsman who travels daily to and from his school by train. Conversely the city school, if we must have city schools—many of us look to the day when most schooling will be done in the clean, free air of the country—should be staffed by townsfolk who care for and appreciate the best that town life can offer. This looks like an attempt to interfere with the liberty of the teacher, but if it were clearly recognised that good schooling is achieved not necessarily by the most efficient teacher, but by the one who has fullest understanding of the particular community of which the school forms a part, it is probable that those on whose shoulders the burden of the organisation of education rests would find it possible

to utilise the individual preferences of the teachers they desire to place.

We must now turn our attention to our present-day school community, and consider the probable attitude of mind with which the younger generation will presently emerge from it to take its place in society. And here we must be careful to take note of the subconscious as well as the conscious ideals. Although we have awakened to the importance of corporate life in school, we have, as we have seen, confined real corporate life largely to out-of-school occupations. Naturally, the child does not regard these occupations, however much he may enjoy them, as the serious business for which he attends school. He comes to school to gain as much knowledge and skill as he can: to get value for his money. This is true of even the proverbial rascal, who plagues the teacher's life with his levity and inattention; this gentleman has no two opinions as to whose duty it is to make him learn. It is probably just as true of the children of the rich as of the children of the poor, though in the case of the former the monetary element being of less importance it will remain in the region of subconsciousness.

To strengthen this attitude to school life comes our system of marking and prize-giving; we apportion our ten marks, or seven, or six, as the case may be, not according to the amount of effort put forth by the child (that is difficult to estimate in terms of marks), but according to the achieved result. We give him a prize not because he has done good work, but because he has done better work than other people; indeed, where there is keen competition for a prize, girl and boy are wont to reckon up their chances of success in terms of the possible mistakes of their class-mates, and this not with any intention of being ungenerous, but as a matter of course. Then we finish up with a grand prize distribution, and have the Lord Mayor or some other important personage to make a speech commending the children who have been successful in beating the other members of their society. Is

it surprising if the youthful product is turned out determined, consciously or sub-consciously, to get and not to give, to exploit rather than to share, to secure his own advancement through the failure of others? If, during the time the child is preparing for social life we prevent him having social experiences, we can hardly expect him to enter society and immediately develop social virtues.

We have tried to instruct youth in social virtues; we have given instruction in mothercraft (I have seen such a course excellently carried out at an elementary school in North London), in morals (under the direction of the Moral Education League), in civics, in citizenship (even a country school in Cheshire, which I visited not long since, according to its time-table taught "citizenship"!), in patriotism, and have not realised that the only way to prepare for social life is to engage in social life. Dewey likens our endeavour to train children in habits of social usefulness and serviceableness, apart from any existing social situation, to teaching the child to swim by going through the motions out of the water.

Unfortunately Froebel's attitude to the social life of the school has been swamped and lost to sight by his disciples' whole-hearted, but misguided devotion to his "gifts and occupations." It would be equally unfortunate should Madame Montessori's really vital contributions to modern pedagogy be similarly swamped. It will be remembered how, in "The Education of Man," Froebel heaps contempt on the parent who, when the boy is young, does not allow him to engage in the work of his elders, and then when he is at an age to be really useful is surprised that he takes no interest in his father's work. His descriptions of his schools give many indications of a full, corporate life, and of daily acts of social serviceableness performed by the boys.

In this connection should be considered the debated question of co-education as opposed to the dual schools, or separate schools for boys and girls; also separate training colleges for men and women

teachers. We wish men and women to engage in social intercourse, to promote mutual understanding and mutual helpfulness. Is it wise when they are preparing for life to compel them to spend a large portion of their lives in separate institutions? May not this breed unnatural reserve, suspicion, and distrust, rather than mutual understanding and helpfulness?

The most striking attempt at school life is, perhaps, the camp school. The Fielden Demonstration School carried out in several successive years a very successful summer school camp. A wooden hut and three bell tents provided shelter, and the boys and girls did all the cooking, washing, cleaning, keeping accounts, while lessons were leisure-time occupations. It was evident to all who studied the enterprise that there the children acutely realised in their own persons the essential conditions of the production of food, clothing, and shelter for mankind.

This is valuable as a starting point, but it is clear that we cannot—that it is undesirable that we should—become primitive men, though it is certainly valuable to relapse into these conditions periodically "lest we forget." The school of tomorrow will be a development of the camp school, a school fitted up by the children themselves, or according to plans worked out by them. Here is an opportunity for boy and girl to realise the essentials of good cooking, good furniture, good ornament, good pictures. The usual valuation of these things is made on a money basis; the rich buy expensive furniture, ornament, etc., and feel confident that their choice has been good because they have paid heavily in money; the poor spend as much money as they can, and the more they spend the better they presume is the article they have procured; they seem to want "to wallow in all the costly vulgarities" of the rich. They do not know that a home-made piece of furniture may cost less than the cheapest they can buy, and at the same time be more durable, more useful, and certainly more truly artistic, for things made with love and care to serve

useful purposes have ever been works of art.

The Little Commonwealth has pointed the way of reform and clearly demonstrated how much can be done in the way of allowing youth to direct its own affairs. The nearest approach to this kind of school which I have seen among elementary schools was at Mixenden, Halifax, where the mutually helpful and purposeful spirit engendered is apparent to even the casual observer.

In such a school we make both directly and indirectly for right living. The handicrafts do much to induce a right attitude to work and to explode the luxury tradition. A tradition has been handed down to us that the gentleman loafer and the lady who walks out of her dress leaving it on the floor for someone else to pick up, are people to be envied; nothing will so readily dispel the glamour of this tradition as purposeful work with our hands.

Through school handicrafts children may also gain some insight into the conditions of labour: the conditions under which many of our "common things" are necessarily or unnecessarily produced. To mention only two, may they not realise the conditions under which pottery and china is produced: the evils of lead poisoning both to the workers and the children to whom they give birth; and the conditions so detrimental to the lungs of the workers under which many of our commonest biscuits are produced? These sores of society exist largely because the people engaged in labour are hide-bound by tradition, and do not know that there is a way of escape; and the people outside the particular trade do not know that the abuses exist. Here, as elsewhere, it is the truth that shall make us free.

It also seems undesirable to emphasise class distinctions in school. This is sometimes unwittingly done on such occasions as harvest festivals, when the fruit, flowers, etc., are afterwards sent to the "poor"; and often collections are made in schools for various so-called charitable organisations. May this not foster a spirit of complacent patronage? May it not be

that brotherly love and understanding engendered through the handicrafts is the truer charity? The war collections in the present crisis do not, of course, fall into the same category, for children are quick to realise that this is a national crisis and that different conditions must necessarily now prevail.

Above all, it behoves us at the present time furiously to think what attitude of mind "the younger generation" will have towards a cosmopolitan society. May it not depend on them whether or not in ten, twenty, or fifty years the world will again be plunged in a war more hideous and more gigantic than that in which we are now involved? Will they hasten the time when "the meek shall inherit the earth"? We have tried to prepare children to be good citizens by instructing them in the rules governing good citizenship, and we have failed. We have striven to prepare for "world citizenship" by instruction, and again we have disastrously failed. May it not be that the only way to prepare for universal brotherhood is to share in universal intercourse?

Rev. Henry Wotton. III.

A PIONEER IN CHILD-STUDY.

By H. HOLMAN, M.A.

At the end of the Narrative Wotton adds:—"The truth of this narrative, for matter of fact, I shall evidence by these honorary mentions some persons of worth and learning have left with me, under their own hands, concerning my child." The testators are: Mr. Ombler, a Fellow in Corpus Christi College; Mr. Philip Skippon (afterwards Sir Philip), a Member of the Royal Society, who lived at Wrentham; and Sir Thomas Browne, M.D.; each of whom had personal knowledge of the child's attainments. These written testimonies were all given in 1672. John Nichols writes, in his *Literary Anecdotes* (1812, vol. iv., p. 253):—"Having been favoured by a great-grandson of Dr. Wotton with the loan of the original book in

which these remarkable testimonials were entered, I shall here exhibit them in a regular series, as a literary curiosity." He then gives those mentioned above, with twenty others—all men of eminence (including the Bishop of Norwich)—whose testimonies were given between 1672 and 1680.

The after career of such a pupil is of more than curious interest, for it not only shows whether his early powers were temporary or permanent, but also gives some idea of the final value of his early training. Fortunately the history of his life has been fully recorded. His career was a distinguished, not to say brilliant, one, though by no means wholly phenomenal. Doubtless it would have been more crowned with worldly success had it not been that he was extremely thriftless and somewhat of a gay Lothario.

In an account of his life in *A New and General Biographical Dictionary* (1761-67) we read:—"His progress in learning was answerable to the expectations conceived of him; and Dr. Duport, the master of Magdalen-college, and Dean of Peterborough, has described it in an elegant copy of verses: 'In Gulielmum Wottonum stupendi ingenii et incomparabilis spei puerum vixdum duodecim annorum.' He then goes on to celebrate his skill in languages, not only in the Greek and Latin, which he understood perfectly, but also in the Hebrew, Syriac, Chaldee; his skill too in arts and sciences, in geography, logic, philosophy, mathematics, chronology."

John Nicols writes, in his *Literary Anecdotes* (1812):—"What distinguished him from other men chiefly was his memory: his superiority seems to have lain in the strength of that faculty; for, by never forgetting anything, he became immensely learned and knowing; and, what is more, his learning (as one expresses it) was all in ready cash, which he was able to produce at sight. When he was very young he remembered the whole of almost any discourse he had heard, and often surprised a preacher with repeating his sermon to him. This first recommended him to bishop Lloyd, to whom he repeated

one of his own sermons, as Dr. Burnet had engaged that he should. But above all, he had great humanity and friendliness of temper. His time and abilities were at the service of any person who was making advances in real learning... He was a great lover of etymology; and Mr. Thwaites, in his *Saxon Grammar*, takes notice of his skill and acuteness that way, which he was extremely well qualified for, by knowing most of the languages from East to West. Mr. John Chapman, chaplain to the archbishop of Canterbury (in 'Remarks upon the Letter to Dr. Waterland in relation to the natural account of Languages,' pag. 8, 9.) has done him the honour to place him in a list of great names after Bochart, Walton, Vossius, Scaliger, Duret, Heinsius, Selden, etc., all men of letters and tracers of languages."

While there is no doubt that he possessed an extraordinary memory, it certainly was not this that gave him his undoubted right to a place amongst the foremost scholars and literary and scientific men—he was a friend of Sir Isaac Newton—of his time. Anyone who has read his "Reflections upon Ancient and Modern Learning" cannot fail to recognise in it the acumen, tolerance, sanity, judiciousness, and learning, of a master mind, and will agree with Dr. Norman Moore's estimate that, "unlike most controversial writings, [it] is chiefly devoted to the clear statement of facts, and may still be read as the best summary of the discoveries in nature and physical science up to its date" (*The Dictionary of National Biography*). There can be no doubt but that he possessed reasoning powers of a high order. The beginnings of these were shown during his early years, for his father says of him that "when he saw a long or hard word he would encourage himself thereto with a more than ordinary resolution, and glory as much in the conquest of it as a soldier when he hath won the field." Again: "For he remembering some small pieces of the sense in the English, he many times—although I am sure he never had met with that Latin word before—when we had done some considerable part of the

verse, would give the English of it, the sense necessarily leading thereto... So apprehensive was he suddenly of the sense of the context, as that he could easily find out one and the other [of the concords], and easily join them together."

His career at Cambridge was remarkable. The Rev. Dr. J. H. Monk (Lord Bishop of Gloucester), in his *Life of Richard Bentley, D.D.* (1833), says of Wotton, who afterwards became a personal friend of, and collaborator with, Bentley—of whom it is said "no greater intellect than his has ever been devoted to the study and elucidation of ancient literature" (*The Cambridge History of English Literature*):—"When he entered the University [he] was a child, and presents the best authenticated instance of a juvenile prodigy that I have ever found upon record... On his admission at Catherine Hall in his tenth year, the master, Dr. Eachard, the antagonist of Hobbes, recorded 'Gulielmus Wotton, infra decem annos, nec Hammondo nec Grotio secundus' ['William Wotton, under ten years, second to neither Hammond nor Grotius']—two distinguished scholars]. His surprising proficiency during his academical career is testified by some of the best scholars of that day: Dr. Paman the Public Orator, Dr. Duport the Dean of Peterborough, and Dr. Lynnet of Trinity College. When he proceeded Bachelor of Arts, he was acquainted with twelve languages; and as there was no precedent for granting that degree to a boy of thirteen [actually twelve years five months], Dr. Humphrey Gower, one of the Caput [the then Council or ruling body of the University], thought fit to put upon record a notice of his proficiency in every species of literature, as a justification of the University. These testimonials, after making every abatement for the language of admiration, leave the fact little less than miraculous, and it is right to add that Wotton maintained in after life a reputation much higher than is generally the case with persons famed for precocious intellect in childhood."

It would appear that immediately after

taking his degree he went to London and was introduced to some of the most learned and famous men of the day.

In *The Diary of John Evelyn*, under the date of July 6th, 1679, is this entry:—"There was now brought up to London a child, son of one Mr. Wotton, formerly amanuensis to Dr. Andrews, Bishop of Winton, who both read and perfectly understood Hebrew, Greek, Latin, Arabic, Syriac, and most of the modern languages; disputed in divinity, law, and all the sciences; was skilful in history, both ecclesiastical and profane; in politics; in a word, so universally and solidly learned at eleven years of age, that he was looked on as a miracle. Dr. Lloyd, one of the most learned divines of this nation in all sorts of literature, with Dr. Burnet, who had severely examined him, came away astonished, and they told me they did not believe there had the like appeared in the world. He had only been instructed by his father, who, being himself a learned person, confessed that his son knew all that he himself knew. But, what was more admirable than his vast memory, was his judgment and invention, he being tried with divers hard questions, which required maturity of thought and experience. He was also dexterous in chronology, antiquities, mathematics. In sum, an *intellectus universalis*, beyond all that we read of Pico Mirandola, and other precocious wits, and yet withal a very humble child."

In the winter following the taking of his B.A. he was invited to London by Dr. Gilbert Burnet (afterwards Bishop of Salisbury), then preacher at the Rolls, who introduced him to many learned men, among whom was Dr. William Lloyd, Bishop of St. Asaph. The bishop was so highly pleased with him that he took him to St. Asaph, the next summer, to assist him in making a catalogue of his library. On his return to London Dr. Turner (afterwards Bishop of Ely) procured him a fellowship of St. John's College, Cambridge.

He graduated M.A. in 1683, and B.D. in 1691, having meanwhile been elected F.R.S. in 1687. In the same year as he took his B.D. Bishop Lloyd gave him the

sinecure of Llandrillo, Denbighshire, and he was appointed chaplain to the Earl of Nottingham, a Secretary of State, who preferred him to the rectory of Middleton-Keynes, Buckinghamshire, in 1693.

In 1694 he was acting as tutor to a son of Mr. Finch of Wotton, Surrey, and paying friendly visits to Evelyn. In a letter dated July 7th, 1694, Evelyn writes thus to Pepys :—"Some kind genius directed the most learned Dr. Wotton to give me a visit, and an inestimable present too, his Reflections upon Ancient and Mod. Learning...an universally learned, and indeed extraordinary person. This is he whom I have sometimes mentioned to you, for one of the miracles of the age for his early and vast comprehension. Set him down, then, in your Albo, among the Gales and Bentleys, as you will certainly do as soon as you know him. I assure you he is no less in the pulpit and conversation, than in his book and writing, with great modesty. Judge, then, what an unexpected blessing is befallen me in the wilderness [at Wotton, Surrey], and with what manna I am fed, when he does me the kindness to come from Albery, where he has the care of a hopeful young son of Mr. Finch's, to Wotton, his namesake, as he calls it." Earlier in the same year (June 14th) he writes in his diary :—"The public Fast. Mr. Wotton, that extraordinarily learned young man, preached excellently." This was at Wotton, where Evelyn lived with his brother, at Wotton House, the family seat.

It was during this same year that he wrote the book which brought him most into prominence amongst the learned and famous men of the day. Sir William Temple had written an "Essay on Ancient and Modern Learning," in which he maintained that the former was very superior to the latter. In the course of the essay he took occasion to indulge in sarcasm aimed at the then recently established Royal Society. Wotton replied to Sir W. Temple in a pamphlet entitled "Reflections upon Ancient and Modern Learning," in which he upheld the learning of the moderns as superior to that of the ancients, and defended the Royal Society

against Sir W. Temple's attack. The controversy was joined in by Bentley Boyle, and Swift (who was then living with, and under the patronage of, Sir W. Temple), and is one of the most famous in the history of literature. Swift attacked Wotton, by name, both in his *Battle of the Books* and *Tale of a Tub*. In the former he refers to him as "W-t-t-n a young hero whom an unknown father of mortal race begot by stolen embraces with this goddess [Criticism]...[who] privately ordered two of her beloved children, *Dulness* and *Ill-Manners*, closely to attend his person in all encounters." Wotton took all this in good temper, and replied to it with dignity and effect in "A Defence of the Reflections upon Ancient and Modern Learning," published in 1705.

He wrote many other works, some of them of great learning, during the remainder of his life. Chief among these are :—"The History of Rome" (1701), which was recommended by Leibnitz to the Electoral Prince of Hanover; "Miscellaneous Discourses relating to the traditions and usages of the Scribes and Pharisees" two volumes (1718), which was for a long time the standard work on the subject; and *Cyfreithjeu Hywel Dda, ac Eraill* (published in 1733—after his death), an account of Welsh laws.

In 1705 Bishop Burnet gave him a prebend in Salisbury Cathedral, and Archbishop Tenison (Canterbury) made him a D.D. in 1707. In his later years he retired to his Welsh living owing to pecuniary difficulties—John Nichols says : "He had not a grain of œconomy" (*Anecdotes of William Bowyer*, 1782). While in Wales a serious illness began to develop, and he went to live with his son-in-law, the Rev. William Clarke, the Rector of Buxted, Sussex. Here he died on February 13th 1726, and was buried in the parish church. Strange to say, both the *Encyclopædia Britannica* and the *National Dictionary of Biography* state—probably copying a mistake made in an old biography—that he was buried at Buxted, Essex. There is no Buxted in Essex, and the present Rector of Buxted, Sussex (Rev. G. S. Pownall

has been good enough to verify the fact that the grave is in the parish church there.

(To be continued.)

Parent Educators.

By PROFESSOR BIDART.

Translated by MISS M. S. RYAN, B.A.

3. *The Method of Counteracting Evil Tendencies.* "I am determined to save my child from being a slave to his passions; I feel that that is the greatest benefit I can give him."

(1) "The best way of destroying an evil passion is not to let it come to birth." A paradox, but sound sense. The parent must observe his child closely; behind the fault that he sees, he must trace that which gives rise to it, he must discover that evil tendency which may be only just developing, and he must stamp it out before it has time to satisfy itself and become stronger; if, in spite of all his efforts, the tendency has manifested itself, then it is the parent's duty to see that it is thwarted in every direction, and that all influences tending to excite or develop it are removed. Just as the only way of strengthening oneself in a virtue is to practise it, so there is only one way of overcoming a vice, namely, never to give it satisfaction, to let it perish of inanition. This treatment will prove itself more efficacious than all the punishments and all the counsels that can be conceived.

(2) Let us suppose, however, that some particular fault has already developed. Every fault comes from an inclination for or against some thing or person, from love or hate, from a liking or a dislike. Hence the parent must find the origin of the fault and attack it at its source.

But, one may ask, is it always possible to stamp out a fault at its source? You cannot dry up a spring of water, you can only change its direction. So in the moral order, you cannot destroy the child's inclinations, indeed, it would be disastrous if you could! The child must like and dislike. What the parent must do is to

cherish and strengthen whatever is good in the tendency and weaken whatever is bad, and thus gradually stifle the bad under the good by bringing the two tendencies into opposition in such a way that victory is with the good.

Every vice is akin to some virtue and *vice versâ*. For instance, a child is deceitful. That is a fault; you may say it is the virtue of prudence carried to an excess. Another child is wanting in candour. Candour is a good quality, but when carried to excess in another child it becomes impertinence. And so with any fault—so that what the parent has to do in his training is to look out for the deficiency and supplement it, or discover the excess and diminish it.

Some dispositions are complacent, others are arrogant. The former must learn the lesson of honour; as to the latter, it is necessary to break down their reserve and their pride by luring them to pleasure, humanising them by making them feel the joy of living and loving.

To gain a thorough knowledge of a child's disposition it is necessary to observe it attentively and continually in all its manifestations, *e.g.*, in games, in play with its toys or dolls, in its chatter with its playmates, in its talks with grown-ups, etc. Then we must make allowances for inherited tendencies. I, myself, the child's father, what are my faults? What are my good qualities? What about the child's mother, his grand-parents? What is the principal characteristic of the family? What may he have inherited from us all?

One child may be surly and ill-tempered; it is his nature. The trouble is partly physical, and must be cured by appropriate treatment. Another child is by fits and starts brooding or uproarious. You must get his health right if you want him to be even-tempered. Certain faults must be treated as if they were diseases, a physical as well as moral treatment is required. This is the case with greediness and self-indulgence, timidity and anger, laziness and violence.

A child may happen to be selfish, awkward and untidy, and a story-teller! Do

not suppose that you can correct all these faults at once, you will only get over the difficulties one by one. Don't you see that if the child is awkward and untidy and tells stories, it is most probably because he is selfish? Then attack the selfishness first, that is at the root of the other faults. Up-root a tree, the branches will soon wither.

(3) Lastly, let us suppose that the evil tendency has still further developed and has become an evil passion. It is a difficult matter to make a frontal attack against a passion; like a raging torrent, it will burst through every obstacle and its course become more violent. It is better gently to try to divert it by directing it towards other objects, but substituting for it a more noble and innocent passion. You can, of course, figuratively speaking, take a violent leap, and hope that the distance is too great to cast even a backward glance, but you expose yourself to a great danger, in the moral order, for the very greatness of the effort may exhaust your strength, and consequently leave you incapable of resistance in the clutches of the passion which seizes and binds you more closely than ever. It is wise to proceed gradually, to make a slight effort daily, and with each effort some slight progress. "To attain to a new virtue there are two occasions one may choose (a) the moment when one is best disposed, so that one is able to make good headway; (b) the moment when one is least disposed, so that one is obliged to put forth the whole strength of the will."

4. *Method of inducing the Child to take an Interest in Correcting his own Faults.* The following is an excellent method and one not widely known. When your child can read and can reason for himself, show him a notebook and say to him: "In this little book we shall write down the history of your life, all your faults and failings, and the efforts you make to conquer them. When there is a blank page it will mean that there is nothing to record, you have not fallen. Don't think this is a trap for you. You know you have faults. We have shown you your weakness and your strength. We want to help you to conquer

your weakness, but you must help too, for without you we can do nothing." And you will note down in the book his failures and his efforts to avoid them, in the order of their occurrence; you will neither exaggerate nor extenuate; you will give neither blame nor praise. You will merely record the fact, for instance:—

"June 10th, 19... George had some work to do. He went and hid himself."

"June 14th, 19... Because his picture-book was not given up to him quickly enough, George kicked his little brother who is three years younger than he is."

This little book is kept in a certain place where the child can go to look at it whenever he likes. By degrees a big thought penetrates his mind—it is that everything persists, that everything counts, that nothing is without importance in our actions, and that everything has its influence on the future... Then he will begin to watch his own actions. Say to him: "Tell us what to do to help you not to commit such-and-such a fault; we will do whatever you ask."

Correspondence.

THE PERCEPTION OF NUMBER.

Sir,—In the December number of the *Journal* (viii., 141) Mrs. Lucas says that at the age of four years nine months her boy could "see" the number of seven things.

I am sceptical, unless the boy is very exceptional. My own experience of adults is that the ordinary limit of the number that can be seen without counting is four, though five can be seen if the things are arranged in some particular way. Beyond four the number is found by addition, e.g., of three and two, or by counting by ones. J. Sully, quoting Sir W. Hamilton, suggests (*Outlines of Psychology*, 7th edition, 1891, p. 192) that the greatest number that can be recognised is six. I think that even this is too high; the power to "distinctly attend to" six objects does not imply the power to know, without counting, that their number is six.

The experiments summarised by Mrs. Lucas on p. 143 show that the boy found out quickly the number of things required, up to five. I do not think it is proved that the number was seen without counting. It is quite possible that the boy remembered the five as three plus two, the three and the two separately.

If an adult cannot usually see more than four, a child cannot be expected to see more than two

or three. The pedagogical bearing of this is (*Enc. Brit.*, ii., 527, § 22) that for young children ten is much too large a number to use as the basis of a scale of notation. We must treat ten as two 5's or five 2's, so that seven will be $5 + 2$ or $2 + 2 + 2 + 1$.

Yours faithfully,
W. F. SHEPPARD.

Child-Study Association and the Constituent Societies.

The Child-Study Association.—The meeting held during the Conference of Educational Associations at the London University on Wednesday, January 5th, was well attended. Sir John Cockburn was in the chair, and Dr. Saleeby gave an address on "Saving the Future." An excellent discussion followed the address.

The Birmingham Society.—The following meetings are to be held this month:—

February 1st.—Presidential Address; Mrs. George Cadbury.

February 15th.—Subject to be arranged. Miss R. Sidgwick, M.A.

The meetings will be held in the King Edward's High School, New Street, at 6 p.m.

Notices and News.

The Society for the Study of Orthopsychics has arranged four courses of lectures, during January, February, and March this year (Wednesdays), on (1) "Landmarks in the Development of Mind," (2) "Elementary Human Physiology," (3) "The Instincts," and (4) "Normal (Individual) Psychology"; and (5) "Psychology of the Moral Consciousness," during April, May and June. Each course consists of from nine to eleven lectures, which are to be given by highly competent and distinguished persons. The fee for each course is 15s., and for each lecture 2s. Members of the Child-Study Society can get tickets at half-price, on application to Dr. L. L. Wynn Jones, 30, Brunswick Square, London, W.C.

The London County Council has arranged for a series of eight lectures on "The Psychology of Explanation" by Professor Adams. The lectures will be given at the London Day Training College, Southampton Row, W.C., on Saturdays at 11.30. They commenced on January 15th. Applications to be made to the Secretary of the College.

Miss Anna Snell.—Many of our readers will regret to hear of the death of Miss Anna Snell, the first Principal of the Manchester Kindergarten College, which occurred last August. She was a close friend of Frau Froebel, one of the most devoted followers of Froebel, and an unselfish and devoted pioneer in the teaching of children on kindergarten lines, and in the training of students as teachers.

Reviews.

The Education of Karl Witte. Edited by H. A. BRUCE. Pp. xl., 312. G. G. Harrap. Price 4s. 6d. net.

The doctrine of giving the child no actual teaching for his first five or six years is one to which most of us more or less subscribe. Certainly the modern tendency has been strongly in favour of letting very young children's brains "lie fallow." This most remarkable book, recently translated for the first time, combats most strikingly these views, and makes us pause to examine afresh the grounds for this belief. It is a most stimulating book, and the translator, if, as he says, he has had to omit and abridge many rather wearisome dissertations in the original, has certainly succeeded in that there is not a single dull page.

Karl Witte, the elder, was a pastor in a German village, and this book, written nearly a hundred years ago, is his account of the education of his boy. He was not concerned to make a learned man of him, but to develop to the full his mental, physical and moral powers. He seems, indeed, to have succeeded most wonderfully. The boy not only showed a remarkable mental development, but he grew up strong and energetic, happy, fond of play and of young companions, unswervingly honest and modest. The latter virtue is remarkable when one remembers that he became a doctor of philosophy at the age of fourteen, and at sixteen joined the teaching staff of the University of Berlin.

The author describes at length the first steps he took, before the child could talk, to lay the foundations of knowledge and to train the child's powers in the right directions. He gives a full account of the child's teaching, his food, his games and toys, also the way in which he passed his days. Later on come detailed descriptions of how the boy acquired French, English, German, Italian, Latin and Greek, all of which he could read with ease when he was nine. Much of the book is devoted to a description of the father's system of moral training, which seems to have been very successful.

Everyone interested in early education should certainly read this book. His admiration will be divided between the illustrious son and the father, who, so many years ago—though denied the help which modern anthropology, psychology and kindred sciences have given us—saw clearly into many of the problems which bewilder us to-day.

In translating this book H. A. Bruce has done a most valuable piece of work and one which will be appreciated by all who deal with young children. The question of just where to begin lessons is a practical one that is perpetually being answered, and this book makes us feel that we may possibly be quite wrong in our prevalent habit of neglecting very early mental training. There is no need to conclude hastily that Karl Witte's education was absolutely right, and that we are wholly wrong. The book simply relates one ex-

periment and its result. But, as the editor points out in his "Foreword," the experiment is by no means unique, and in the light of this and others we shall do well very gravely to reconsider our grounds for abstaining from systematically and seriously teaching a child during his very early years.

The Dawn of Religion in the Mind of the Child.

By EDITH E. READ MUMFORD, M.A. Pp. xi., 111. Longmans. Price 1s. 6d. net.

All those who can unquestioningly accept all the assumptions which Mrs. Mumford makes will undoubtedly enjoy her book greatly, for it is written with an enthusiasm and eloquence which they will find irresistibly stimulating and satisfying. For those of a critical and logical cast of mind the result of reading the book will be very different. They will, we think, find it difficult to accept her analogies, or reconcile her arguments with one another. For example, in summing up her case she suggests that children can be helped "so to interpret Life"—"a solution of the world problem" that all is right with the world in spite of sin and suffering—by comparing it with compulsory school cricket, in which "each player, whether good or bad, learns, at any rate, to play for his side rather than for himself. It therefore follows that, when each one, strong or weak, puts his whole heart into the game, all goes smoothly and harmoniously enough, in spite of uneven handicaps" (p. 104). To those who know the game this is a caricature of the facts; and it entirely leaves out of account the opposing side. Throughout her book the author either deliberately ignores, or entirely forgets, the opposition.

As to the consistency of the arguments, we have the following: "Our religious teaching must begin with 'telling'; but mere 'telling' is not teaching"; telling about God and teaching a simple prayer "is but a poor substitute for leading him to 'know' God" (p. 16); yet as a result of telling "day by day, he comes to 'know' more of God." Again, the author appears to us simply to evade problems which she seems to believe she is solving. To "bring home to him the thought that it is possible for him to hold communion with an invisible spirit world" (i.e., God) a fairy tale is told, in which the wind tells stories to a boy; the boy thinks whether fairies would like to see him lazy and sulky; the wind tells him that the fairies are helping him, and "he *knew* that they were near"; a bundle of sticks he is carrying seems to lose its weight; and "*The fairies had been keeping him company!*" (pp. 40-42). That is: take it for granted that the child already knows he has communion with gods—which fairies are in effect assumed to be, and as they were originally believed to be—and it is not difficult to explain to that child that he can commune with a God. Truly it ought not to be; for the greater difficulty surely includes the lesser. But is not this a case of explaining one unknown by another unknown?

A sceptical child of six asks: "Could God make

that wardrobe?" She is told that unless God gave power—skill is not mentioned—to cut down trees, and make and use tools, the wardrobe could not be made by man. This evasion of the direct issue leads to immediate reverence and prayer on the part of the child, and the realisation of "wonderful significance" in the fact that she cannot move her little finger without God (p. 24). A little boy asks his mother what moves the branches. He is told to wave his arm like the branches. "What makes your arm move, laddie?" she questions; and then he understands that, just as an unseen force moves his own arm, so an unseen force is moving the trees...and thus is born in him the first consciousness of the reality of the Unseen" (p. 14). We fail to see the sequence, except by begging the question; and we don't think the child is capable of such sudden and phenomenal developments.

The book is a strange mixture of fact with fancy, religious assumptions with psychological truths, and common sense with mysticism.

Religious, Civic, and Moral Education. "By ONE INSIDE." Pp. 34. Copies 6d. each, from W. J. Saunders, B.Sc., 64, High Street, London, W.

This is an original, daring and sparkling attack on the established conventions concerning religious education in schools, and the careful setting forth of "A new solution of the 'Religious Difficulty in Schools' for after the War"—it is dated "*War-time, 1916.*" The writer calls himself "a minor educationist," but those readers to whom his speech bewrayeth him will know him as a major one. It is lively reading, and will cause lively thinking. The author requests his readers to fill up a form given at the end of the pamphlet, say whether they agree with his new solution, and with what qualifications, or disagree, and on what grounds. We will not therefore risk prejudicing the reader's conclusions by giving our views, but heartily recommend him to study it for delight and for action.

The Uplands Circular. No. 2. Pp. 48. William Morris Press, Ltd., 42, Albert Street, Manchester. Price 6d.

An interesting number of the new Uplands Association, founded by Professor J. J. Findlay and others. It contains articles on:—The Way of Reform in Education, Schools of To-morrow, Rhythm in Art and Education, Suggestions for Study (a) in Psychology and (b) of the Social Aspects of Education. All are well worth reading.

PUBLICATIONS RECEIVED.—*Journal of Education*; *Child-Life*; *Parents' Review*; *Secondary Education*; *Journal of Experimental Pedagogy*; *Educational Review* (U.S.A.); *Child-Life* (U.S.A.); *School and Society* (U.S.A.); *The Pedagogical Seminary* (U.S.A.); *The Journal of Educational Psychology* (U.S.A.); *The Social Reform Advocate* (Buenos Aires); *School and Life* (Petrograd); *L'Intermédiaire des Educateurs* (Geneva).

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Saving the Future.

A Report of a Lecture by C. W. SALEEBY, M.D., F.R.S. (EDIN.), and a Discussion.

The Hon. Sir John A. Cockburn, K.C.M.G., M.D., presided on January 5th at the University of London over a meeting of the Child-Study Association, held in connection with the Conference of Educational Associations, when Dr. C. W. Saleeby gave an address on "Saving the Future."

The Chairman, in introducing the lecturer, said Dr. Saleeby had identified himself with the greatest cause any man could identify himself with—that of the solidarity of their race and of its future. It was one of the signs of the times that questions of this sort were now receiving so much attention. It was a sign of that corporate consciousness to which they had all risen lately. A few years ago it was not so, and men looked on the world as a sort of place in which to enjoy themselves merely, and they left those who were to come after them to look after themselves. They had now got away from all that, and they were regarding life as a very solemn trust. Their lives were strictly entailed, and it was a deadly racial sin for any man to squander his heritage and depreciate the stock to which he belonged.

Dr. Saleeby said he addressed an audience a few years ago in that hall on a somewhat similar occasion, and then, rightly or wrongly, they were interesting themselves in questions of the inheritance of eye colour in mankind. They compared it with the inheritance of colour in the sweet pea, and considered whether from this they could draw any conclusion as to the inheritance of epilepsy and mental deficiency. They then thought rightly that

these were matters of importance and relative to the future welfare of the race, but they did not then know what was coming upon them. They met now after a year wholly without parallel for its calamitous consequences upon their race. Nothing in their records could possibly be named to compare with the vital statistics of 1915. Taking the ratio from the latest figures announced by Mr. Asquith, their losses were ninety thousand men who physically and psychologically were the elect of the nation. That was half as much again as the customary annual death rate from their deadliest disease, tuberculosis, and half as much again as the figure to be allotted to alcohol and all its consequences.

Along with this they had the lowest birth rate; a raised civilian death rate; an abominable rise in the infant mortality, although the nation had allocated more money for the children of its soldiers than in any previous campaign; and they might add, by way of irony, a rise in the marriage rate. These facts mainly depended on military processes, which, to complete the tale, had the effect of immensely enlarging the Empire, the life of which was being depleted as they lost their soldiers—the fittest fathers of their imperial future—and by that very process their imperial responsibilities for the future were increased.

He asked them to look at the map in which he had tried to indicate the enormous size of their Empire, and notably as compared with the sizes of other empires. Further, he had tried to indicate how extraordinarily empty this immense Empire was. They found a state of affairs with regard to population which was without parallel in history. The population of the United Kingdom was forty-five millions as compared with the seventy millions

population of Germany. If they took the whole of their population in the Empire they could only add fifteen millions to that forty-five millions. Whilst they were three hundred and seventy-five to the square mile in the British Isles, there was only one to a single mile in Australia, and two to the square mile in Canada. It was a peculiar fact that, apart from India, it was an almost empty empire; and that empire was getting bigger by the very processes which were taking so much of their best lives.

Now, in the first place, he thought it was a duty to assert public disapproval of the opinion that they should have no babies at present, and that there would be no room for them if they had them. He was a personal friend of the author of the pamphlet he had in his hand, in which it was advocated that there should be no more children till peace and prosperity returned. The public teaching of the opinion that they should have no more babies until the war was over was equivalent to a counsel of national and imperial suicide. The argument put forward by students of economics—as to the genuineness of whose intentions he made no question—was based on the assertion that there was really only just enough food to go round, and that if they produced more babies, and if people like Dr. Pritchard and others saved the babies they had, then another person must perish for lack of food.

Briefly, this was nonsense. The Dominions' Royal Commission had just published an extraordinarily interesting memorandum, which showed that, as regarded increase of food products and increase of population, the British Empire stood out as a most signal exception. The increase in wheat production during the decade 1901-11 was seventy-five per cent., whilst the increase of population in the same period was eleven per cent.; and bread was still the staff of life. But, further, the official estimate of the production of wheat in Canada this year was that it would be fifty per cent. over that of 1911. In the face of such facts from Canada, which did not know what to do with the wheat it

produced, the proposition that to bring babies into the world or to save them meant that someone else had to die for lack of food was nothing but preposterous and dangerous nonsense.

His next point was with regard to infantile mortality, and that was to be regarded as a phenomenon ante-natal and post-natal. One of the most fertile sources of error in this respect, in so many people's minds, was the tendency to assume that the beginning of the baby was its birth, and that the birth rate was absolutely the beginning rate. But the birth rate had properly to be thought of as the survival rate from the conception rate, and really every life that was conceived ought at least to last until it could come into the world, as they called it, and a great deal longer. But in the interval between conception and birth there was a wastage which numerically was immense. In fact modern students, like Mrs. Scharlieb, Dr. Routh, Dr. Ballantyne, and others, said the destruction of life before birth was as large as, or larger than, the destruction in the first post-natal or infantile year. If they reckoned that they killed about one hundred thousand babies in the first post-natal year, the figure of deaths before birth was put by these modern students at something like one hundred and twenty thousand per annum.

Further, this destruction—for destruction it was—had a one-sided sexual incidence. It was very largely a male infanticide. According to the 1911 census figures there were about one and a quarter million more women than men in these islands over the age of twenty-one.

Then came this military death rate of ninety thousand per annum up to date. This would leave as one of the legacies of this dreadful war a greatly increased disproportion between the sexes in a country which called itself monogamous. In the country, furthermore, they saw constantly going on the destruction of infants and of unborn infants which fell much more heavily on males than on females. It was a thing which people in general could never quite believe, but it was so. They played

on the male and female with equal forces of injury, and it was the muscular, bigger, more brutal, more aggressive male which collapsed. The females recovered, for they could resist more—nature made the female in order that she might be able to bear the future. In countries where still-births were statistically attended to they had figures showing one hundred and forty males to one hundred females. Therefore this destruction was playing into the hands of the military destruction of males only, and into the hands of that sexual disproportion with which they entered the war.

He suggested that here was a very cogent reason for trying to avert the infanticide in a nation which needed, and would need, so many males, in order to equalise the proportion of the sexes, which must surely on every ground be a natural and happier condition for national existence and maintenance.

These processes which were going on were not like the movements of Jupiter and Venus, which they could study and compute but could not control, but they were phenomena of which they were part, and within limits they could do almost what they pleased with them. They had allowed a great deal of money for the mothers of the children of the men fighting for them, yet infant mortality had gone up, and there was no room to doubt that maternal drinking was the cause. He thought it useful to assert that attempts to solve the recruiting problems which had been brought upon them quickly, out of hand, by rapidly advising prompt measures, were bound to fail by the nature of the case.

In their time the Boer War brought the subject to their attention. The number of recruits that were damaged engaged the attention of Sir Frederick Maurice, and then that of a Royal Commission, and so forth. The first idea was that by physically training the recruit he would become right. But it was found that lost teeth did not return, and bow legs did not straighten. Then the doctor went into the schools for the first time. Dr. Leslie Mackenzie of Edinburgh found a dreadful

state of things in the schools. To-day they had medical inspection of children and medical treatment more or less, and they were beginning to open dental clinics, and so forth.

In London two-thirds of the children entering the schools were found to have preventable physical defects. Thus they got back to that very neglected child, whom he always wanted to call the home child, because home was its place. He meant the child between one and five years of age, for whom practically no agencies of any kind existed, whom practically no one systematically studied, to whom no associations devoted themselves, and yet who was a necessary link in the vital chain which constituted the history of every one of them.

And so they came to infant mortality, which for a dozen years they had been studying, and which they had most notably reduced within the present century. In fifteen years or so they had got down infantile mortality in this country approximately by one-third. This was not bad. On a closer study of the figures the interesting fact emerged that the decrease in the mortality was mostly in the case of children in the latter part of the infantile year—the nine, ten and twelve months' old baby. They had saved the baby by the reduction of infantile diarrhoea; by having motor cars instead of horses in the streets; and, of course, by the many charitable and municipal agencies. In the later period there had been a recent cutting down of the mortality by twenty-five per cent., but in the first three months the cutting down had only been to the extent of six per cent.

They had practically failed to touch the infantile mortality in the very young baby, and the reason was that even then they had not begun at the beginning. All methods for dealing with the child might be put under two simple categories. They were: the method, or series of methods, which tried to save the baby apart from its mother; and the methods which tried to save the baby through its mother. By the first method they got their results more promptly, for they did not have the prob-

lem of educating the mother or relieving her defects. They did not have to face all the difficulties of permitting natural feeding and so forth. They took the infant and provided it with municipal sterilised milk, which by a flight of fancy they called humanised, although it came from the cow; and they hoped in this fashion to save the baby. They provided a crèche or other means whereby the infant was prevented from falling into the fire, and was kept warm whilst the mother was working in a factory, and they saved babies up to a point. Thus far they went and no further because, although that method was better than a worse one, it could only be called good in default of the real method, which was to save the babies through the natural saviours of babies, who were the mothers.

When they tried to save the babies through their mothers, and only then, would they solve the problem of infant mortality in the first three months, which all their efforts in the past twelve years had practically failed to deal with at all. This could only be done by a recognition of the truth, about which there was nothing nasty except to nasty minds, that the nine months before their birth was a part of the history of a human being as vital and essential as any other. Indeed more so, because as the twig was bent the tree was inclined.

He had in his hands a little scrap of paper which they got through the House of Commons whilst the members, he supposed, were at dinner. It was the Notification of Births [Extension] Act, which came into force last year, and under which local authorities who were compelled by an educated public opinion would be enabled to save enormous numbers of infants in the coming year. But there was no compulsion about the Act except so far as mere notification was concerned, and therefore if they wanted to do anything to save the infant after its birth, the local authority must make that decision for itself, and it could only be brought to do so by the educated public opinion of the locality. It was the duty of everyone with a civic sense, and who claimed to have any

patriotism at all, to see that infants were not being killed by neglect to carry out the provisions which this admirable little Act made possible. It followed along the principle of saving the infant through its mother, which he took to be nature's principle.

This was a principle which men had so constantly tried to avoid. The first one to do this was Plato, who said that all the babies were to be taken from their mothers, and shuffled so that no mother should be able to recognise her own infant—thereby eliminating that love of the mother for her own babe which he regarded as a source of serious danger to the republic. Moses practised the idea of saving the babies through their mothers, and he belonged to a race which had defied all attempts to suppress it. When he was a student under Dr. Ballantyne that pioneer was taking the greatest interest in infants born damaged and deformed, and so on, and he was advised by his seniors that he was wasting his time and nothing was to be got from it. But he persisted in going on, and from him they had the idea of the ante-natal care of the child.

Well, Dr. Ballantyne had come to his reward. When he (the lecturer) was resident in Edinburgh Maternity Hospital the first ante-natal bed there was inaugurated, and had to be occupied by expectant mothers who had some claims for special medical care. They had now an ante-natal ward, and he had a letter from Dr. Ballantyne in which he told him of the amazing figures which would shortly be published in the *British Medical Journal*, showing the astonishingly small proportion of mothers who need die at child birth if their condition was attended to in time.

He would say one other word about the causation of infant mortality. People dogmatised about it and said the cause was so-and-so, but he believed the causes of infantile mortality were almost as numerous as the causes of mortality at other ages. He did not even like to hear it said, as Mr. Walter Long said at the great Guildhall meeting, that poverty was not a cause. It

was and it was not. Poverty did not cause infantile mortality, but poverty which meant ignorance did cause it, as did that which meant that mothers had to live next door to dirt and flies which caused infantile mortality, at all events in the non-breast fed infants.

And then he wanted to combat the assertion which was being made in the name of eugenics, that the deaths of infants were a natural and healthy process; that it was a rather merciful elimination of infants not fit to live. That was not only untrue, but he ventured to call it the lie of lies. It was the most absolutely false and pernicious statement which was in common circulation to-day. They were told that it was the Darwinian process of natural selection, and that if these children were kept alive by fanatical persons who thought it was their business to interfere with the great Dame Nature, it only meant that they would die a little later. They were told that the rate of child death and child damage would rise if they interfered with a process which, it was asserted, mercifully eliminated these inferior infants. The answer to this assertion, for which Prof. Karl Pearson was chiefly responsible, was that it turned out to be exactly the reverse. Dr. Newsholme had demonstrated up to the hilt that there was a natural proportion between infantile mortality and infant damage, and that infantile mortality was only the most complete consequence of causes which damaged far more infants than they succeeded in killing. Therefore if they had a low infantile mortality they had a low child mortality, a low proportion of damaged children, and a low proportion of unfit recruits.

He had formerly made the assertion about recruits without figures, but now Mr. Hughes, the Prime Minister of Australia, had received a report from the Commonwealth Statistician showing that the medical men who examined recruits found a splendid proportion of fit young men in Australia, where they had an extremely low infantile mortality.

Further, so far as the infants actually killed were concerned, it was not true to

say it was due to their heredity, and that they were better dead. No one had the right to assert that it was heredity until he had excluded ante-natal infection and ante-natal intoxication. If he injected a deadly microbe into a child a month or a year old, or into an adult of fifty years, that person was infected with the disease and died, but it was not inherited. If he injected the same microbe into a baby one second, one minute, or one month before birth was that the result of heredity? If he dosed a baby with gin before its birth, and when it was born it died and had gin-drinker's liver, that was intoxication and not heredity. There were no figures in connection with the Eugenics' Laboratory or anywhere else which recognised the existence of the ante-natal period.

It was necessary to distinguish between heredity—what was given in the genetic cells which united to form the new individual—and ante-natal environment and mal-nutrition. He did plead to them to think of birth as an epoch in the history of the individual, and to realise that there was an ante-natal environment which was of importance. Women, of course, because they were women, would understand this better, but, unfortunately, the whole thing had been so largely in the hands of men. He entirely agreed with the doctrine that there ought to be more women on municipal bodies, to help in this matter, and he was also of opinion that this subject of babies, which was looked on as a sentimental and domestic subject with a nice pious flavour, was a subject not only for mothers, but one for the supposed more spacious intellects of men.

Now what results were they to expect if they attended to this matter? One was fewer rejected recruits; and in this connection he had got the figures from Australia. For the last seventeen months doctors had been rejecting would-be soldiers, and this was largely the result of their neglect of infancy in 1890 to 1895.

In Germany the infantile mortality was twice as high as in this country, and he had reckoned ever since the beginning of the war that she would proportionately

sooner come to the end of her fit males, and he believed the records were justifying that statement. They knew that there was a far higher proportion of physically unfit men in Germany than there were in this country.

He wanted to insist that it became an essential duty for them to recognise as cardinal facts in the making or unmaking of their national future certain agents, which in the teaching of his great master, Sir Francis Galton, were never mentioned. Eugenists failed to recognise one of the most important factors of all in national destiny, which was the influence of what he called racial poisons. By racial poisons he meant things which were capable of spoiling what should have been the finest of good stock. For instance, a child infected before its birth with certain diseases would be spoilt, although its parents and its grandparents were superb. The race had been poisoned by certain diseases, and the most important was syphilis, which was largely accountable for the so-called racial degeneracy of which they had heard so much. When they came to close quarters with the problem, they found in regard to much so-called inherited deaf mutism, epilepsy, and insanity, that in point of fact it was not heredity. It was infection by syphilis, which was preventable and, if taken in time, curable. Another racial poison was alcohol, and he regarded it as deplorable that he was able to offer them such an alcohol map of the world as he then showed, when a large proportion of the world had recognised the duty of dealing drastically with alcohol, whilst Great Britain remained black.

People did not realise how much splendour food was continually being destroyed to make poison. They had not got enough ships to bring the things they needed for the purposes of the war, but they had ships bringing barley and other things to be turned into poison for mothers to buy with their separation allowances, and so to raise the infantile mortality. He believed in the idea of democracy, but they had this most difficult and painful fact to deal with: that a great autocracy like

Russia could deal with such a thing with a stroke of the pen, whilst the great democracy to which they belonged had tinkered and potted with the problem, with the results which were before everybody. Where did democracy come in in a case like that?

Lastly, there was one final argument used against those who wanted to save babies and to raise the birth rate as he did at that time. It was said they only wanted to provide cannon fodder for the future. That might be the case with some people, but he claimed that his record was not open to that criticism. Until the war he was a professed pacifist, and he hoped there was going to be no more war in their time. But he did not want to save the babies for cannon fodder. He wanted to save them for freedom, for which their best were now dying. If, as he hoped, there would be no more war, there were still those possibilities of living represented by the wide fields of Canada and Australia and other Colonies. There was room for the highest possible form of life and social organisation. He wanted them to live as the trustees of freedom and the trustees of knowledge, the "heirs of all the ages" as Tennyson had called those to be born in the future. And if some great military aggression was to be made upon freedom by anybody, then they could turn into soldiers, as their young poets and clerks and teachers and all manner of men had turned into soldiers during the last seventeen months. And when there was no more war, as people called war, there would be many an army fit to fight, as Whittier's soldiers, for

"Saner, sweeter wars, life-giving wars,
Campaigns of peace to come."

Mrs. Scharlieb said she would like to emphasise what had been said of racial poisons. A Royal Commission had been investigating the subject, and the evidence showed there was a lamentable amount of infection of the utterly innocent mothers and infants of the land. It might be said this was an unwomanly and disgusting subject to speak about, but she asked them,

as mothers and fathers and people who had the welfare of the people at heart, to consider the subject, painful as it might be to them. She asked each, in his or her own sphere, to try and get rid of the trouble. There was no doubt about it that a very large proportion of anti-natal mortality, and of mortality of infants in the first year of life, was due to the ravages of syphilis.

She had heard it said that if people chose to contract so abominable an infection, neither assistance or treatment should be offered them. But it was wrong to permit any man or woman to go about in a state which would permit them to infect their fellow creatures. Therefore they must work hard to get a recognition by the nation that the disease was one which had to be treated and cured. In order to get the better of the disease they must insist not only on the notification of every birth, but also endeavour as far as possible to carry out the noble plans of Dr. Ballantyne, and those who thought with him, so that they could go to life at its source, and protect the infants by protecting their mothers. If they had been able to do so much to limit the ravages of tubercle, and of other infectious diseases, they ought to demand of the Government and the Local Authorities that this sickness and death rate should cease.

Before they had the inspection of school children she was a member of a deputation which waited on Mr. Birrell, to ask him to facilitate the introduction of the Bill for medical inspection. He said that, so far as he was concerned they were approaching the converted, but they could not spend the money of the nation against its will, or legislate in advance of public opinion. If they could convince the nation they would find the Government heartily with them. It was exactly the same now with this other matter. They must have a notification of all still births, and it would be a good thing if they could have a notification of pregnancy, in order that women might be warned and treated, and their babies saved.

Dr. G. Eric Pritchard said that Dr.

Saleeby had referred particularly to the extension of the Notification of Births Act, and that he thought he might claim as one of the results of the work of the National Association for the Prevention of Infantile Mortality. That Society had been working for the past ten years at the extremely difficult and intricate problem of how to cope with infantile mortality, and as Dr. Saleeby had told them, they had been driven back and back until they were forced to deal with the cause of the mortality, which occurred before the birth of the child. That was the point on which they must all concentrate.

But he might mention one or two other things which had contributed to the wonderful drop of thirty per cent. in infantile mortality. One was undoubtedly the passing of the Early Notification of Births Act, but the extraordinary thing was that the Act had been in force for eight years, except for the one provision that it was now compulsory, whereas before it was purely voluntary. Some of the more progressive municipalities adopted the voluntary Act when it was passed, and infant mortality in those places began to drop by leaps and bounds. The same thing would happen everywhere if the Act was adopted in a true spirit. It was compulsory on all authorities to institute the notification of birth, but it did not go further, and where they could all help was in seeing that municipalities did their duty.

Plenty of municipalities had no intention of putting the Act into effective force. They did not believe in spending the rate-payers' money for the purpose, although they could see the enormous benefit of such work conscientiously carried out. What they all wanted to see was the establishment of ante-natal clinics, where mothers could come to be examined and have advice given them, so that their children might have the chance of growing up into healthy citizens.

They had studied the question and knew the best lines to go on. One thing they knew was that if it was important to look after the baby before it was born, it was also important to look after it at the crisis

of birth. There was no question but that in the past midwives had been extraordinarily ignorant. They were very different now, but there was still room for improvement, and his Association had been working hard to improve the education of midwives, and within the last few months they had heard that the training for midwives was to be extended from three months to six months. If carried into effect, that should have a very material effect on the health and prospects of these children.

Another thing was that in the curriculum of medical men the item of looking after the health of children had hardly been considered worth mentioning in the printed forms of the various examining and degree-conferring bodies. They had been working to get the curriculum extended, and already he saw signs that it was beginning to bear fruit.

They had also been endeavouring to instruct mothers by the establishment of infant consultations, and there were now five hundred of them in different parts of the country. This movement was certainly taking root amongst the poorer classes, but the middle and upper classes did not avail themselves of the same opportunities. They were beginning, however, to have some success in that direction also.

Mr. McLeod Yearsley said he was particularly interested in the prevention of deafness, and could give evidence to support some of the facts brought forward by Dr. Saleeby. He would like to emphasise the fact that a higher infant mortality also meant a higher percentage of defectives, and it at least meant a higher percentage of deaf defectives, so far as his knowledge went. Dr. Saleeby had told them that ideas of the extent of the results of heredity dwindled when they came to investigate ante- and post-natal causes, and that was exactly what happened with regard to deafness.

In the last seven or eight years he had been closely studying the cause of deafness in children. He had studied the matter himself and in conjunction with Dr. Kerr,

of Glasgow, and they found the further they went the fewer were the cases which could be put down as true hereditary deafness. The ante- and post-natal causes of deafness in children came under certain categories. One great category was meningitis, whilst in the ante-natal causes of deafness in children alcohol and syphilis particularly were to be counted as of very great importance. Investigations into large numbers of children in the deaf schools, who had passed through his hands in the last seven or eight years, showed a percentage of post-natal deafness in children due to inherited syphilis of seventeen per cent., which was a disgracefully high percentage. That was not counting the number born deaf for which syphilis was responsible.

With regard to Mr. Birrell's reply to the deputation to which Mrs. Scharlieb referred, the answer might have been, "People do not want it, and if we give it we shall not keep their votes, and therefore we could not give it them." The whole question of the future lay with the Government, and he would say to them: "Keep the lawyers out of it in the future, and let the doctors have something more to say."

Mr. T. G. Tibbey said the Child-Study Association had a very broad platform, and was keenly interested in the question they were discussing, because they believed their duty was to foster child life in the nation. But they did not stop at that, and he would make a plea for the further care of the adolescents as well. They must not forget the physical needs of the child who at thirteen or fourteen, exempt from attendance at school, was left to his or her own fate medically, and very many needed great care. After the war there was going to come a period of unemployment for boys and girls from fourteen to eighteen years of age, which was very likely to have a very serious effect upon their moral and physical development. Dr. Saleeby told them that remedies devised at the moment nearly always failed, and unless they were prepared with plans for looking after these young adoles-

cents, and taking care of them during the period of unemployment, then they would be seriously neglecting their duty of saving the future.

Miss C. S. Bremner asked if any attention had been paid to the fact that when there was a low, general mortality there was a low child mortality. She was reading a report of what occurred in Holland in the 'eighties. An Association was formed to limit the birth rate, whilst at the same time a great attack was made on the death rate. By altering both rates the death rate was brought lower than the birth rate, so that there was actually a very high saving in life. She believed the same thing occurred in New Zealand.

Dr. Dunlop, as the author of the pamphlet to which Dr. Saleeby had referred, said he was proud to have written it. The birth rate had fallen considerably, but that was due to a large extent to the absence of men in the war. He contended that after the war they would see a further rise in the death rate, and there would be a period of great economic stress. When that time came he would like to hear what Dr. Saleeby had to say about their advice. It was easy to pour ridicule on the Malthusian doctrine, but when the man who was a producer died, those dependent on him must suffer.

Dr. Sophie Jevons said she was working in the poorer districts of London, and at the present time there was greater prosperity amongst the working classes than there had been for generations. To say that at present it was impossible to support infant life was talking against facts.

Rev. Henry Wotton. IV.

A PIONEER IN CHILD-STUDY.

By H. HOLMAN, M.A.

After some search, and through the courteous and generous assistance of those whose names are mentioned below, I am able to give some further particulars concerning Henry Wotton, which may interest those who have read the preceding articles of this series. Of his parentage,

and the place and exact date of his birth, I have been unable to discover any trace. We can, however, make an approximate guess as to the year of his birth. The Rev. C. R. L. MacDowall, Head Master of the King's School, Canterbury, has been good enough to get from the Rev. C. E. Woodruff, the Deputy Cathedral Librarian, the information that Wotton was one of the King's Scholars in the school:—"In 1640 his name appears rather low down amongst the King's Scholars... In 1642 he was head boy, or at any rate head of the King's Scholars... I can't say whether Wotton held the Parker Scholarship, though as he was head boy it is likely that he did... He was not a King's Scholar in 1637." Unfortunately the books for 1638-1639 are missing.

It is, I think, probable that he became a scholar in 1638, and held the scholarship till 1642, and then was taken into the house of Dr. Meric Casaubon, "from whose house," he says, "I immediately went when I was admitted in Corpus Christi College in Cambridge" (1643). This would fit in with the fact that the King's Scholarships were held "four years, or, with the approbation of the Dean and Chapter, and Head Master, five years, but no longer" (Nicholas Carlisle, *Endowed Grammar Schools*). Wotton says that he was "for seven or eight years" in the school. This would mean that he entered it about the year 1636, and as it is unlikely that he would enter it before he was eight years old, it is probable that he was born somewhere about the year 1628.

It is quite possible that Dr. Meric Casaubon may have taken him into his house to employ him as an amanuensis, and then gave him further instruction in his classics partly for this purpose. This idea is suggested by the fact that he (Casaubon) was extremely busy at the time in writing works in which the help of an amanuensis would be very valuable. Further he was then in receipt of a very limited income, and the head boy of the King's Scholars would be qualified to give him a good deal of mechanical aid, for

which he would be paid by board, lodging, and tuition. One other fact suggests the probability of this, *viz.*, that Wotton afterwards became amanuensis to Bishop Andrewes, an intimate and close friend of Dr. Meric Casaubon's father, and also a great friend to himself for his father's sake. Doubtless Casaubon recommended Wotton to Bishop Andrewes.

Wotton gives an interesting account of his relations with Casaubon, and of the method of tuition which the latter employed in carrying on his studies in the classics. It will be noticed that the method used by Casaubon was, in its chief ideas, the same as that afterwards used, and expanded, by Wotton in the education of his own son.

The following is the account given by Wotton in his *Essay*:—"When I myself had, for seven or eight years, been educated in the Free-school at Canterbury, Dr. Meric Casaubon, whose name is great amongst all learned men, but particularly venerable, and with all gratefulness to be acknowledged by myself; taking a particular notice of me, he took me into his family, where he showed the love and care of a tutor to me in my studies; from whose house I immediately went when I was admitted in Corpus Christi College in Cambridge. Tho' I was then in the upper class of the school, had so far learned my Latin and Greek, and could, as ordinarily it was performed by others, make a theme and a verse, yet by reason I never had the acquaintance with any considerable portion of any author, either prose or verse, my knowledge both in the Latin and Greek tongues was so trifling as that it amounted to little or nothing; whereupon, in order to the attaining of the Latin and Greek tongues, his business was to commend an author in Latin, most accommodate to my abilities, and the author he chose for the Latin was Quintus Curtius, which in his house I read over, so as to observe the sense of every word; and in Greek he charged me with the reading the gospels in the New Testament. These he left with me, as the exercise of my own industry, and for the

trial of my own abilities; whereas in Greek he particularly went over with me Homer's *Batrachomyomachia*, and several verses in *Theognis*; and in Latin he instructed me in Virgil's second *Æneid*, and two of Cicero's orations against *Catiline*; all of which he particularly concerned himself in; he caused me to learn accurately without book. Those and other pieces of *Curtius*, and the Greek Testament, he only now and then, to observe my diligence, would a little pose me in; by which means I began to understand somewhat in the Greek and Latin tongues, and with some facility to write Latin, and to conceive what it was to have a style."

To the Rev. Dr. H. P. Stokes, Vicar of St. Paul's, Cambridge, who has most kindly taken great trouble in the matter, I am indebted for the information that Henry Wotton, of Kent, was admitted as Bible-clerk at Corpus Christi College on February 23rd, 1643. "The Bible-clerkship marked him as a scholar. In the University Registry, amongst the Matriculations in July, 1644, Hen. Wotton, of C.C.C., is included among the Quadrantarii, which again, of course, refers to his being a Scholar and not a Pensioner." This seems to confirm the suggestion that, as head boy of the King's School, he went up to Cambridge with a Parker Scholarship. He took his Bachelor of Arts degree in 1647.

After his course at Cambridge there is no record of his doings, except the reference in Evelyn's Diary, July 6th, 1679, that he was "formerly amanuensis to Dr. Andrews, Bishop of Winton," until we read an account of him in *The Diary and Autobiography of Edmund Bohun*. Bohun was a lineal descendant from a cousin of William the Conqueror; a learned man, and a historian of some repute, who was concerned in public affairs; and, in his later life a Chief Justice of South Carolina. Under the date July 19th, 1677, he writes:—"I visited Sir John Rous bart, as I have often done. He had some clergymen with him; and among them H.W. rector of W. We had much con-

versation on ecclesiastical affairs and on our divisions. H.W. extolled his own forbearance towards the wandering sheep of his parish. To which I answered that, nevertheless, he himself was hated, because although, as he acknowledged, he had formerly been one of the same party, he had forsaken them. He said, however, that he had fallen in with the church because he saw that peace could not otherwise be established. But I asked him whether, for the same reason, he would not leave the church when he saw fit. He was excessively angry, and gave no answer. Then I declared that men of this sort would read the Koran when they could derive emolument from so doing. Which he again denied. I proceeded to prove this, and described their detestable and known perjuries, inferring that they who would commit perjury for party's sake would do anything that might seem expedient. To this he made no reply. Striving to conciliate both parties, he is suspected by both. He neither loves nor is beloved by any one."

In justice to Wotton it must be pointed out that Bohun was, according to Mr. S. Wilton Rix, the editor of his *Diary and Autobiography*, a man who "gave offence by the tenacity with which he held his opinions, and by his freedom and copiousness in propounding them. Naturally earnest and energetic, he constantly became the victim of his own anger and indiscretion." Though he writes of himself:—"I was bred a dissenter from the religion now established in the Church of England, a great admirer of parliaments; and taught betimes to fear monarchy and arbitrary government"; yet his biographer says that he became "strictly attached to the protestant Church of England, and loyal in the extreme of loyalty, he was an object of jealousy and dislike to his more opulent, democratic, or moderate fellow justices, and of terror to the nonconformity, popish or protestant." We may, therefore, fairly discount his criticism of Wotton, expressed in such unmeasured terms, and have regard rather to Wotton's "forbearance towards the

wandering sheep of his parish," than to Bohun's scathing attack on his change of opinion.

It is interesting to notice that Bohun writes in his diary, on April 11th, 1677: "My wife admonished me that I was disliked by many gentlemen on account of my talkativeness, and because I speak at too great length. I am conscious of being disliked; but I know not why. I have never, unless extremely provoked, uttered the slightest reproach against any. I have injured no one. Yet I am beloved only by the clergy and some other learned persons, with whom I chiefly associate; perhaps for no other reason than the above." It is to be hoped that other clergymen had better reason to love him than Wotton.

The "wandering sheep of his parish" referred to were those who belonged to the Congregational Church which had been formed in 1649, under the Rev. John Philip, one of the Westminster assembly of divines; and the refugees, both ministers and laymen, who were sheltered or concealed at Wrentham Hall, the home of Francis Brewster (lord of the manor), who was a puritan. It was he who presented Wotton to the living of Wrentham in 1666, doubtless being influenced by the fact that he had once been a nonconformist, and was a moderate and tolerant man.

Thanks to the very generous help of the Rev. E. R. Yerburch, the present Rector of Wrentham, I am able to give some further information concerning Wotton's time at Wrentham. He was presented to the living as stated above, and held it till his death on December 10th, 1696. He was buried in Wrentham church. The Rev. E. R. Yerburch says: "The registers were kept by H.W. with very great care, e.g., in the case of Burials he always records whether the people were buried in 'Linen or Woolen.' I send you two extracts: 'October 6th, 1678. Mrs. Amy Brewster was buried, and on the 10th day of October, a note under Justice North's hand of Benacre was brought that 5£ was paid for her not

being buried in Woollen, 50 shillings whereof was given to ye porre of this parish into ye Hands of mee Henry Wotton. August 23, Thomas Downes servant to Sir Robert Halton Knt. was buried^d August 23, and no affidavit being sent of his being buried in Woollen only, a certificate was sent on August 31st delivered to ye Overseer by myselfe.' H.W. wrote a beautiful hand." His son William is also said to have written a fine hand.

A very interesting sidelight on Wotton's standing in the world of learning is contained in a reference to him in Nichols' *Literary Anecdotes*, Vol. III., p. 650, where among the "Progress of Sale Catalogues (1756)" it is mentioned that at a sale held by Thomas Osborne, of Gray's-inn—"the most celebrated Bookseller of his day...his collections were truly valuable for they consisted of the purchased libraries of the most eminent men of those times" (according to Mr. Dibdin, *Bibliomania*, p. 470)—the library of "the learned Mr. Hen. Wotton" was included.

My further search for records of Wotton's life has led me to the conclusion that his *Essay* was first published in 1673 and republished in 1753. The Librarian (Francis Jenkinson, M.A.) of the Cambridge University Library tells me that "There is a note by E. Umfreville in our copy (Adv. 396) of H. Wotton's *Essay*. But the statement that the book was originally published in 1673 is quoted (from a review in the *Monthly Review* for December, 1753) in another note by a later hand, said by Mitford (who once owned the volume) to be Porson's: but I am not satisfied that it is written by him."

The note by Umfreville says "that the original MS. of the essay was given to T. Waller the bookseller, who issued it, by E. Umfreville" (*Dictionary of National Biography*). The lengthy review of the 1753 edition in the *Monthly Review* begins with this statement: "The republication of this piece eighty years after the first appearance of it, as it contains a variety of agreeable amusements, cannot fail of exciting some attention in the public."

Mr. S. Wilton Rix, the editor of *The*

Diary and Autobiography of Edmund Bohun, says, in one of his footnotes, that the *Essay* was published in "London 1672; reprinted 1753," but gives no authority for the statement. Nichols says that the book was "reprinted in 1752" (*Literary Anecdotes*, vol. 4. p. 258).

Sir Philip Skippon, of Wrentham, writing to Mr. John Ray, F.R.S., on September 18th, 1671, to tell him about "a little boy, William Wotton," says: "His father, I believe, will signify hereafter the great proficiency of the child, so much admir'd by every one that knows what he can perform already" (John Ray's *Philosophical Letters*, 1718). It is probable that Wotton had informed Sir Philip of his intention to publish his *Essay*, the MS. of which was at the time possibly in hand and nearing completion, for the text reads as though it had first been in the form of a diary, or notes written from time to time.

It is unlikely that these statements are quite unfounded. It is also quite reasonable to suppose that William Wotton would, when he came to man's estate, prefer that the *Essay* should not be republished during his lifetime; while after his death his reputation would lead others to desire that the record of his precocious youth should be re-issued. Taking all these things into consideration, we shall probably be right in concluding that the *Essay* was first published in 1673.

There are several remarkable parallels between the *Essay* and the German book recently published in English on *The Education of Karl Witte*. In each case the educator is the father, a country clergyman and accomplished linguist; and in each case the son is the pupil, and becomes famous as an educational phenomenon. Both fathers have a genius for teaching, and an untiring energy and devotion in their self-chosen task. Each gives a supreme example of what we may call systematic, practical, experimental child-study and pedagogy by an amateur; and each supplies valuable material for the study of the nature and value of the intensive culture of intellectually precocious children.

Parent Educators.

By PROFESSOR BIDART.

Translated by MISS M. S. RYAN, B.A.

4. *Self-Correction.* "Tell us what to do to correct you." If he himself suggests the means, he will want to prove himself right, and he will watch himself more carefully.

The last stage in the process is reached when the child himself notes down his own faults. Custodian of the magic book, he will inscribe daily the record of his shortcomings, and his faults, the good deeds he might have done and did not do. He puts the book in the same place, and this time you go to read it.

At the slightest sign of inaccuracy you write in the margin: "This is not as it happened; this is the real fact." Rest assured, fathers and mothers, that your child will thus make rapid progress in moral perfection. You will not need to have recourse to praise or blame, the shame of having to write down his faults, the pleasure of having nothing to enter, of showing a spotless page. Can you conceive of any stronger influence on a child who has the slightest vestige of honour?

5. *Greediness.* "Up to the age of seven my parents spoil me. I was a greedy child: this is the vice which makes thieves of men, and when they are not checked in time they become hardened criminals. You fathers, mothers, guardians or teachers who listen to me, fulfil your duties by watching for the first manifestations of the shameful vice which has brought me here." (Quoted by Mme. Campan from the speech of Cartouche on the scaffold.)

(1) *How we ourselves cause greediness to arise.* "Taste that, it is nice." "How do you like this cake?" "Some roast meat or fowl, which do you prefer?" "What shall we have for dinner this evening to celebrate the day?" "Now, children, we are going to have something very nice for lunch to-day"...This is what the child is continually hearing. He easily becomes convinced that eating and the enjoyment of eating is the principal business of life. During the first two years of his life he

does nothing but satisfy his appetite; after that, he is greedy, and he has become so by our fault, by our injudicious remarks.

(2) *How we encourage greediness.* "You have not been a good child, you shall not have any supper..." "Do your lessons, then I will give you some sweets..." "Don't touch that dish on the table, it isn't for you, you are not old enough yet..." Such words as these excite desire. It is just the same with the practice, after any absence, of bringing back cakes or sweets, of giving the child something to eat between meals, of letting him eat meat without bread or vegetables, which proves that he has no real appetite; or, again, of letting a child partake, during the same meal, of several highly flavoured dishes, whereby the taste is artificially stimulated and the child led to go on eating when he no longer has any need for food.

Correspondence.

THE TEACHING OF CIVICS.

Sir,—A few months ago I wrote you asking your readers for information upon the teaching of civics. The enquiry I was then engaged in has been for some time completed. May I ask you for space to make known one of the results it is leading to?

It has been made quite clear to us (1) that civics teaching should concern itself with the economic and voluntary organisation of our community, as well as its local and central government; (2) that its starting point should be the civic organisation of the local community with which the pupils are in contact; and (3) that many teachers who are trying to work on these lines already are much hindered by not knowing how to set about getting a knowledge of the social life of the districts where they live or work.

We want to give such teachers every assistance in our power; and we are therefore arranging to co-operate with the Committee for Regional Survey in a Study Meeting at Ludlow (Shropshire) at Easter this year. This meeting will give opportunities for the study of the life of the Ludlow region in all its aspects. One section will be devoted specially to the social life and organisation of the district. The study will be largely devoted to getting at facts first-hand; there will be little of book work or formal lectures, but plenty of opportunities for discussion.

I think that many of those teachers who feel that more should be done for citizenship in our

schools will be glad to know of this meeting. I shall be pleased to send full particulars to anyone who will forward name and address.—I am, etc.,

ALEXANDER FARQUHARSON, Secretary.

The Moral Education League,
6, York Buildings, Adelphi, W.C.

THE PERCEPTION OF NUMBER.

Sir,—In the February number of the Journal W. F. Sheppard declares himself sceptical when I state that my boy can "see" seven numbers without enumeration. He further suggests that six is too high a number for average grown-ups, and puts his estimate at four.

I have tested twenty girls of from seventeen to eighteen years old, also various other people, and I am of the opinion that from six to seven represents the limit. It is difficult to eliminate the possibility that these numbers were mentally added and not really seen. I explained to the people I was testing that I was trying to find out where the limit of "seeing" was, and asked them to tell me each time which method they had used. They always appeared quite definite as to which way they had arrived at their results.

With regard to my boy, now just six, I have tested him anew in the last three days. I took sixty observations. All the threes and fours were right, also eight out of nine of the fives, nine out of ten of the sixes, eight out of nine of the sevens, three out of five eights.

He was very interested in the experiments and quite emphatic as to when he had arrived at his conclusions by addition, and when he had "seen" the numbers. According to himself he always saw up to five; six and seven were almost equally divided as to method. He explained to me: "Of course, when I see seven I sort of guess it is seven; I cannot quite know like I do with three." However, the guesses were remarkably correct.

I am lucky in having a relay of boys to experiment on, so I tested my next boy of four years eleven months. He is not such a quick child as his brother. He has had no instruction in counting, and can only add two and three with appreciable delay. Tested in the same way, he is invariably right up to and including five, then he makes no attempt and says, "I do not know." The answers he gives are spoken with no hesitation or delay.

A third boy of three years six months can only say the number names up to five in correct sequence. He never counts objects one by one, but states "It is three," "It is four." Testing him like the others, he is quite invariably right up to four, but every time I tried five he said he did not know. In this habit of silently estimating the number he differs from the other two, who invariably began by counting objects: "One, two, three," and, whenever possible, touching them as they counted.

Leaving aside the question of what the ordinary adult powers are in this line, the whole subject is most interesting. It looks rather as if children have this power very highly developed when comparing them with adults. If so the question arises why and how development ceases to progress. Innumerable experiments are needed on children, so that we shall gain some idea as to the normal limits. It would be very easy for people to get data on the subject from their children, and it would be most extremely interesting.—Yours, etc.,

ALYS LUCAS.

Child-Study Association and the Constituent Societies.

The London Society.—The following lectures have been arranged for 1916:—

February 24th.—*Psychological Problems Arising out of the War.* Cyril Burt, M.A., Psychologist to the London County Council. Chairman—Miss K. T. Wallas, L.C.C.

March 2nd.—*The Danish Child at School.* A. E. Hayes, Head Master, Holy Trinity School, Kentish Town; L.C.C. Travelling Scholar in Denmark, 1903-4. Chairman—P. B. Ballard, M.A., D.Litt., Inspector (Education), L.C.C.

March 16th.—*The Unconscious Mental Life of the Child.* Ernest Jones, M.D., M.R.C.P. Chairman—Sir James Crichton-Browne, M.D., LL.D., F.R.S.

March 30th.—*The Child Delinquent.* Cecil M. Chapman, J.P., Metropolitan Police Magistrate. Chairman—Rev. W. D. Morrison, LL.D., Rector of St Marylebone.

April 13th.—*Experiments on Handwriting in Schools.* Chairman—Dr. C. W. Kimmins, M.A., Chief Inspector (Education), L.C.C.

DR. KIMMINS will give an account of Speed Tests of different kinds of Handwriting.

MISS GRAINGER, Head Mistress of St. Luke's Girls' School, Nutford Place, will describe an Experiment in Handwriting.

MISS GOLDS, Head Mistress of St. George the Martyr's Girls' and Infants' Schools, Bloomsbury, will give an address on Preparatory Work, and Introduction into a School of a New Method of Handwriting.

The lectures will be held at 90, Buckingham Palace Road, S.W., on Thursdays at 6 p.m.

Notices and News.

The Society for the Study of Orthopsychics inaugurated its spring term series of lectures on Wednesday, January 26th. Dr. Marie Stopes gave an interesting address on "Behaviour in the Lowest Organisms." By lowest organisms was to be

understood single celled animals and plants; and by behaviour was meant reactions to stimuli. The two great activities which distinguish animal from non-animal life are hunger and love. These seem to be exhibited by amœba, after all allowances have been made for purely physical processes.

The remaining lectures of this course, on "Landmarks in the Development of Mind," should prove of real help to teachers.

Reviews.

Your Baby; A Guide for Young Mothers. By Dr.

EDITH E. LOWRY. Pp. 238. B. Forbes and Company, Chicago. Price 1 dollar net.

Dr. Edith Lowry opens this book with the somewhat startling statement that "nearly half the babies born into this world die before they are a year old." It would be interesting to know on what evidence this estimate is based. But even if these figures refer only to infants born to the barbarian in the tropics we cannot help thinking they overstate the case. The advice given to the young and to the expectant mother is, on the whole, practical and sound, although the more modern clinician might take exception to such directions as those which refer to the frequent cleaning of the eyes, the mouth and the buttocks of infants with boracic lotion or soap and water. The protective mechanisms of the body resent undue interference. The recommendation that babies are to be kept warm with hot-water bottles is unsound, unless made with reservation. You do not make strong legs by putting on splints, neither do you encourage warm feet (a most desirable possession) by holding them in front of the fire, or by supplying hot-water bottles; this is the way to ensure cold feet.

We notice that a "soother" is interdicted before the infant has learned to "suckle the breast." We do not observe any other warning against the use of this pestilential resource of the incompetent mother. We do not agree with the author on the subject for exercise for infants. She says that rest and quiet are the chief requirements for growth. This is a new physiology; we were under the impression that "exercise of function was the essential condition for growth." A little later, however, she says that the limbs should be rubbed gently so as to exercise the tired muscles. Dr. Lowry cannot have it both ways. For our part, we thoroughly agree with the principle of massage because it is a modified form of exercise, and because exercise and exercise alone promotes the growth of the only tissues in the body the growth of which we wish to see encouraged.

We note with dismay that the infant is to wear "bands" (binders) until he has finished teething, and at first these should be "fastened snugly" to prevent rupture of the umbilicus. Is the cramping restraint of a flannel binder the way to prevent pro-

trusion of the navel? The intervals for feeding recommended are four hours during the day and a six-hour interval at night! For constipation, olive oil or an occasional enema is advised. We notice no reference to the use of orange juice or liquid paraffin, far safer laxatives. Excess of olive oil or of fat is itself a prolific source of constipation. Mothers should be warned of this.

In the part of this book which deals with discipline there is much which should be of interest to mothers, although we are afraid that the section of it which treats of the training of the unconscious mind during sleep will gravely mislead.

"Your Baby" is written in an attractive style, and is sure to find many admiring readers.

El Monitor de la Educación Común (Buenos Aires).

June, July, August, 1915.

The June and July numbers contain a long article by Sr. Pedro Bertolini on "Educational Regeneration." The evils of the present educational system may be seen in present-day character and manners, and in the exhaustion, superficiality and sadness of childhood. This has long been recognised. Rousseau had brilliant theories of reform not translated into practice. Pestalozzi possessed insight and influence, but the application of his ideas became mechanical and pedantic. Froebel endeavoured to give scientific order to Pestalozzi's intuitive method, but his mysticism and symbolism resulted in an educational régime of geometrical stiffness. Herbart affirmed in theory great liberty of action for the child, but in directions determined by the teacher. Tolstoi had the truest vision of real educational liberty, but could not find the true practice—so liberty became anarchy. Spencer's ideas of self-effort and interest also resulted in no substantial, practical revolution. Experimentalists like Claparède have pointed out the dangers, physical, moral and psychical, of the fatigue resulting from our present system, but have only endeavoured to raise to a reasoned criterion the tacit suggestion of the idle students who avoid the dangers of school by indolence. Medical men have added further accusations, but the efforts of all, including the most eminent modern pedagogues, have resulted only in "new patches on an old garment." But "some one will come who will make the attempt at a reconstruction *ab imis*," wrote Tolstoi, and that someone has come in the person of Maria Montessori. Then follows an account of the origin, development, and extension of Montessori teaching.

Sr. Luis Morzone points out that to teach reading the teacher must be experienced in practical phonetics, for the art of speaking must precede and accompany the art of reading. The importance of clear diction increases with the growth of democracy—in monarchies writing flourishes but not oratory, in republics both.

Dr. Luis Suñé y Medan, of Barcelona, is quoted as to the influence of defects of the nose, of the throat, and especially of the ear on character. He says that of a certain examined number of morally

perverted children fifty-nine per cent. had defective hearing.

The Education Board of the Province of Mendoza provides an example for imitation in a scheme for the establishment of a holiday colony for school children and teachers in weak health.

Henry Turner Bailey writes on "A Definite Ideal in Drawing." Drawing and seeing are complementary, and the order of advance in drawing is the order of seeing, *e.g.*, in drawing flowers the order is: (1) Direction of growth expressed in line with the colours of the parts expressed by the principal shades, *e.g.*, jonquil—yellow pencil for flower, green for stem and leaves. (2) Dimensions and outlines of the parts expressed in mass with shades shown by local colours. (3) Apparent outlines and proportions of the parts seen in perspective and expressed in mass. (4) Lines of growth and outlines of parts as influenced by fore-shortening expressed in line. (5) Superficial anatomy, apparent structure of each part, and articulation with other parts expressed in line. (6) The characteristic beauty of the plant as a whole as interpreted in the most appropriate medium.

Ungraded. January, 1916. Published monthly, excepting July, August, and September, at the Hall of the Board of Education, 500, Park Avenue, New York City. Pp. 25. Subscription, \$1.50, single copy \$0.20.

This journal (Vol. i., No. 6) of The Ungraded Teachers' Association of New York City, is new to us. It "is devoted to the educational and social problems involved in the scientific training of the mentally retarded, and to the ultimate elimination of the feeble-minded."

The contents of this number are:—Who is Feeble-minded? (Dr J. E. Wallace Wallin), Care of Sub-normal Children (May C. Deane), Suggestions on Speech Development (Dr. John F. Reigart), Habit Formation (Bertha Winn), Habit Formation and Class Management (Martha Barney), Training the Defective through Household Science (Clara Burrow), Editorial, and Reviews.

The journal is written in an interesting and helpful way, and should prove of real practical value to teachers of the feeble-minded. We cordially recommend it.

The Art of Story Telling. By Marie L. Shedlock. Pp. x., 240. John Murray. Price 5s net.

All who have enjoyed the delight of hearing Miss Shedlock tell stories will be eager to know how to acquire such an art. Miss Shedlock charmingly tells them how in this book. She utters a word of wise caution in her introduction when she says: "It is a great fallacy to suppose that systematic study of story-telling destroys the spontaneity of narrative. After a long experience, I find the exact converse to be true, namely, that it is only when one has overcome the mechanical difficulties that one can 'let oneself go' in the dramatic interest of the story."

The book begins with a characteristic and enlightening preface by Professor J. Adams, and there are chapters on: the difficulties, essentials, and artifices of story-telling; elements to avoid and to seek; how to obtain and maintain effect; questions and answers; and stories in full, and a list of story books (English and American).

Miss Shedlock urges the use of stories (1) to give dramatic joy, (2) to develop sense of humour, (3) to correct wrong tendencies, (4) to develop ideals by examples, and (5) to develop the imagination; and she shows how she would achieve these ends.

Letters on Marriage. By MRS. CHAMBERS. Pp. 76. H. R. Allenson, Ltd. Price 1s. net.

This little book is written in the form of letters to a young wife about Conception, Husband and Wife, Preparation for Parenthood, Birth and Infancy, and Training. It contains information and ideas, but one wonders if it is useful to administer them in such sugar-coated homœopathic doses.

PUBLICATIONS RECEIVED.—*Journal of Education*; *Educational Times*; *Child-Life*; *Parents' Review*; *Eugenics*; *Secondary Education*; *Educational Review* (U.S.A.); *Child-Life* (U.S.A.); *School and Society* (U.S.A.); *Ungraded* (U.S.A.); *El Monitor de la Educación Común* (Buenos Aires); *Estudios Pedagógicos* (Santiago); *School and Life* (Petrograd); *The Social Reform Advocate* (Madras).

The Child-Study Library.

With this number of the *Journal* there is issued a list of additions to the Library, and it is suggested that each member should fix this leaflet in his or her copy. Any member who has not received a catalogue should apply to the Hon. Sec. of the local Society, by whom copies can be obtained from Mr. W. J. Durrie Mulford, 90, Buckingham Palace Road, London, S.W.

Not the least notable of the additions are the bound volumes of *The Paidologist*, the first *Journal* of the Association, and of *Child-Study*, its successor. Like many other things, Vols. I. and IX. of *The Paidologist* await the close of the war for treatment, since certain parts were missing. These errant numbers have been recovered, with the exception of Part II. of Vol. IX., and if any member should have a spare copy of this part he would greatly oblige by sending it to Mr. Mulford, who will return cost and postage.

These volumes (bound separately) extend over a period of seventeen years, and in their articles and reports of addresses, contributed by leading English and American educationists, constitute a unique record of advanced educational thought, during a time which has seen more progress in this field than in any similar period in our history.

No increase of postal charges is to be made for books from the Library.

Child-Study.

The Journal of the Child-Study Association.

Vol. IX.—No. 3.

APRIL, 1916.

The Unconscious Mental Life of the Child.

By ERNEST JONES, M.D., M.R.C.P.

In the following remarks the subject of the unconscious mental life of the child will be dealt with from the point of view of a particular mode of approach to child-study on the one hand, and of a particular conception of what is meant by the term "unconscious" on the other; in other words, from the standpoint of psycho-analysis.

The mode of approach to child-study to which I refer is primarily that of a psycho-analytic exploration of the adult neurotic mind, a fact which in itself immediately excites prejudice as to the validity of any conclusions reached in this way. Three critical questions will at once suggest themselves in this connection: First, to what extent are we justified in transferring to the normal conclusions avowedly based on investigation of the abnormal? Secondly, what value has an examination of the adult mind for the purpose of child-study, and are not memories of childhood distorted beyond expression in the adult mind? Thirdly, how much reliance can be placed on the psycho-analytic method of research, and on the conclusions reached by the use of it?

It is not possible to discuss the last of these questions here, for to do so would lead us too far from the present subject, and I must therefore be allowed for the purposes of these remarks to make the assumption that the lines on which the psycho-analytic method is carried out are sound ones, so that I may confine myself here to expounding some of the conclusions that have been arrived at by those who employ it. In the case of the other

two questions I can at least indicate the nature of the answers that may be given to them.

As to the first question, concerning the relation of the normal to the abnormal mind, there is this to be said. Although at first sight there seem to be evident differences between the workings of the neurotic and what may be called the normal mind, nevertheless closer attention to the matter shews that these are always differences in degree rather than in kind, that the same forces are in play in the two cases, and that, strange as it may appear, disease does not add any new element that is not already present in the healthy mind. The grouping of the forces operative may be modified in the case of a neurosis, and their relative perspective altered, but the structure and mechanisms of the mind remain precisely the same as in the normal, and the principal difference between the two is that, owing to the magnification afforded by neurotic reactions, it becomes easier to discern and trace out the action of fundamental character traits when one is dealing with a neurotic person. Further, neurotic tendencies have such a widespread incidence—no one being entirely free from them—that it would be more correct to regard an absolutely healthy mind as the more abnormal, in the sense that it constitutes a theoretical abstraction rather than a description of what is actually met with.

The third criticism mentioned above, concerning the relation between the child and adult mind, calls for a more detailed explanation. The familiar saying, "the child is father to the man"—one to which no more than lip service is usually paid—is taken very seriously and applied very literally by the psycho-analyst. As the re-

sult of his investigations, he holds not merely that certain interesting resemblances can be perceived between the child and the adult into which it later develops, an observation easily made and generally recognised, but that the child's mind persists throughout the whole of life in an unaltered form by the side of, and concealed by, the adult mind. This persistence is of a peculiar kind, for which no analogy can be found elsewhere in nature; what constitutes its unique feature is the curious phenomenon that the child's mind is to be found in adult life in its original and unchanged form at the same time as the adult mind into which it has developed, a paradox which becomes less startling, however, when one bears in mind the difference between form and energy, between what may be called the static and the dynamic aspects of mental processes.

It is true that, in so far as the infantile mind still produces external manifestations in adult life, it does so only in a modified form and rarely in its primitive way (really only in mental disorder), but the reason for this is that the unchanged form of the infantile mind is entirely withdrawn from external observation in adult life, being buried in the depths of the unconscious. It constitutes the core and the characteristic part of the unconscious mind, which up to the present has been found capable of exploration only by means of the psycho-analytic method. To the consideration of its typical features we shall return as soon as we have come to an understanding about the meaning of the term "unconscious mind."

Without entering into the historical question of the many senses in which this term has at various times been employed, I propose simply to indicate the sense in which it is used in psycho-analysis, which is the one in which it will be used in this paper. The word "unconscious" here does not so much mean that there is no quality of consciousness attaching to the mental process in question, though this is probable enough, as that the conscious ego is *unaware* of it. Thus an unconscious

idea means an idea, which may be merely a latent memory, that at the given moment under consideration is not present in consciousness, so that the ego is not aware of it. This is a simple enough conception, but there are two further matters in regard to it that are not so commonly appreciated. The first is that such ideas are not always latent, as might well be supposed, but that under various circumstances they may exert important activities without at all penetrating into consciousness. The readiest proof of this is to be obtained from observation of so-called post-hypnotic phenomena, where an idea implanted by the physician while the subject is in a somnambulant state may subsequently lead to quite complicated actions being performed by the subject, without his having the least notion of the source of such impulses, *i.e.* of the implanted idea. Similar proofs of the dynamic power of unconscious ideas may easily be obtained by investigation of dream life, or of various everyday slips in mental functioning, such as slips of the tongue and pen, errors of memory, etc.

The second point is that the correlation between the importance of a given idea and its absence from consciousness is not at all what it is commonly assumed to be. The general opinion about this is that if an idea is not present in consciousness it is because it is not important enough, and that it can penetrate into consciousness only when it attains a sufficient strength, *i.e.* a sufficient degree of affective significance. This, however, is only true within a very limited range. It can easily be shown that many ideas, which are both unconscious and of great dynamic importance, are quite the reverse of weak or insignificant, indeed that they represent a most essential part of the personality.

We have therefore to draw a distinction between two classes of unconscious mental processes: between those on the one hand that fail to reach consciousness because of their lack of importance, and those on the other hand that fail to do so because of their excess of importance. To these two classes have been

given the names of "preconscious" and "unconscious" respectively. Preconscious thoughts comprise the vast number of thoughts that are not present in consciousness at a given moment, but which have the capacity of entering consciousness under appropriate circumstances without any special difficulty, *e.g.* when they are called up by a suitable train of association. Thoughts that belong to the unconscious proper, on the contrary, have not this capacity. Between them and consciousness there is interposed an almost insuperable barrier, and without adventitious aid it is not possible for them to surmount this. On any attempt being made to bring these unconscious thoughts into consciousness the barrier manifests itself, subjectively as a sense of intense repulsion against the thoughts on the part of the person, and objectively as a sense of opposition against the attempt on the part of the outsider.

There is good reason to believe that this opposition, or resistance, as it is called, is a manifestation of the same set of forces that are in constant action in restraining the unconscious thoughts from entering consciousness, so we see that the barrier in question is really a dynamic pressure exerted against the onward flow of unconscious thoughts. This dynamic pressure is given the technical name of "repression," and it is easy to shew that its function is to keep from consciousness, so far as is possible, unpleasant and painful thoughts. It does not need much introspection to detect traces of this mechanism even in consciousness itself, namely, the tendency to ignore what we would rather not see or know, and to turn our attention away from thoughts that are personally distasteful; it is indicated in the very use of such phrases as "repulsive ideas," "thoughts that repel one," and so on. But by definition, from the nature itself of the process, it is evident that we can have little conception of the extent to which it is in operation, for thoughts from which conscious attention is deflected are, by definition, those of which we are least aware. I lay stress on this expression of deflec-

tion of attention, for it is a common mistake to regard the process of repression as one in which the person deliberately pushes out various thoughts from consciousness, whereas it is much more a process that *prevents* them from ever entering consciousness, though the former occurrence is naturally the more familiar to us.

Investigation of thoughts that belong to the unconscious proper shews that they possess a number of peculiarities which sharply distinguish them from conscious and preconscious thoughts, peculiarities which I cannot even enumerate here. They differ in both their content and their mode of functioning. We may therefore summarise the foregoing statements by saying that when one uses the expression "unconscious" in the psycho-analytical sense, one denotes by it mental processes that are (1) unconscious, (2) dynamically active in the production of external manifestation, (3) of high significance to the personality, and (4) endowed with certain peculiar attributes that sharply distinguish them from the type of mental functioning with which we are familiar.

As was indicated above, the core of the unconscious mind, in the sense just defined, not only dates from the period of early childhood, but actually is the infantile mind itself which has persisted in an unaltered form as if it had been embedded in the centre of all later mental activity. The manner in which this curious state of affairs comes about will presently be considered. Before taking up this genetic question, however, I wish to call attention to another matter in more direct continuation of our discussion. Investigation by means of psycho-analysis reveals the remarkable and fundamental fact, on which I desire to lay special emphasis, that parallel with, and no doubt related to, the barrier which we have said exists between consciousness and the unconscious proper there is also an external barrier between the infantile and the adult mind, both in the same individual and in the relation between adult and child.

The difficulty experienced by an adult

in attempting to get on intimate terms with the recesses of a child's mind has often been commented on, and indeed constitutes probably the main obstacle in the way of child-study, but there are two matters in this connection that certainly are not commonly appreciated in their full significance. One is the extent to which the resistance on the part of the child operates. When one hears a fond mother confidently assert that her child tells her everything there is in his mind one may be perfectly certain that she is the victim of a gross illusion. Not only does the child from the tenderest years instinctively preserve his inmost thoughts from any adult, however dear, but he is both unable and unwilling to formulate many of them even to himself, and these are by no means the least important.

The second matter, the resistance on the part of the adult, is still more generally ignored. The only trace of any recognition of it is to be found in such remarks as "How hard it is to see things from the child's point of view," a difficulty usually ascribed to defective imagination. Far more important, however, is the affective opposition to seeing various things that go on in the child even when the opportunity does present itself, and still more to appreciating them at their true significance when it is no longer possible altogether to overlook their existence. This opposition is not merely similar to, it is identical with, the resistance we have described above as operating against the recognition of unconscious thoughts on the part of consciousness. To repeat this in other words for the sake of emphasis, the difficulty experienced by adults in penetrating into the child's mind is grossly identical with the barrier that exists between his own consciousness and his unconscious, and until this barrier is overcome, as it is in psycho-analysis, it is impossible for an adult to see the child's mind as it really is.

This is the final answer to those critics of psycho-analysis who maintain that they have assiduously studied the child's mind without being able to find in it the various

characteristics and contents described by psycho-analysts. Of course they are unable to do so, for the simple reason that they are unable to see what is in their own mind. Until a person has access to the recesses of his own mind he certainly will fail to penetrate to the recesses of another's mind, above all to those of a child's.

It is perhaps in place here to broaden the statement made above as to the basis on which the psycho-analytical theory is built. I said to begin with that the mode of approach to child-study here under consideration is primarily that of a psycho-analytical exploration of the adult neurotic mind, and I dealt briefly with the objections to this mode of approach. While this remains true historically, the statement should be completed by pointing out that other equally important sources of material have since become available to us. These are first, various anthropological data—mythology, folk-lore, comparative religion, etc.—secondly, psycho-analysis of normal adult minds, so far as any mind can be called normal or at all events healthy; thirdly, psycho-analysis of children's minds, of which a number have now been published; and last but not least, direct observation of normal children by eyes whose vision has been sharpened by the breaking down of the barrier always existing between consciousness and the unconscious mind, eyes whose gaze is no longer interfered with by the refracting prism of prejudice which divides the field of vision into what may be seen and what may not be.

We have now to take up the genetic question of how a distinction comes to be effected at all between the unconscious and the conscious mind, and here I shall have to adopt the form of a somewhat didactic exposition of the conclusions that have been reached as the result of psycho-analytic work. In the first place, there is no reason to suppose that the form of mental activity present during the first few weeks or even months of life exactly corresponds with either conscious or unconscious activity as we know these in later life, though it probably resembles the latter of these

more than it does the former. It is practically certain, for instance, that there is at that time no consciousness of self as distinct from the rest of the world, and this general lack of differentiation is probably characteristic. The splitting of the mind, therefore, into conscious and unconscious processes represents an acquired state of affairs, and not a primary situation.

According to Freud there exist from the very beginning of life two separate systems of mental activity which constitute the precursors of what later would be called conscious and unconscious thinking respectively. He conceives the mind, to start with, as an apparatus or machine which can be stirred into activity by any stimulus, emanating either from without or from within the individual, and maintains that the object of the resulting activity is always to restore the original condition of rest by bringing about a state of affairs that will nullify the effect of the disturbing stimulus. The result of setting the primary system in action is to create a condition of diffuse restlessness and excitation, which radiates widely throughout the mind, and which seeks in every direction for an outflow of the accompanying energy. The tendency to replace the state of excitation, which is experienced as pain or displeasure (*Unlust*), by the relief of satisfaction, which is experienced as pleasure (*Lust*), constitutes what we term a wish.

At the very beginning of life, immediately after birth, there is hardly time for this state of affairs to develop, for those in attendance, the mother, nurse, and so on, at once see to it that the stimulus is nullified, *i.e.* that the child's wants are stilled. It is, for instance, kept warm, protected from light and sound stimuli, and if necessary fed. On the next occasion that a similar stimulus occurs, let us take that of hunger, the excitation set up proceeds in both of the two directions open to it, towards the afferent, sensory side, and the efferent, motor side, of the mind respectively. The former results in a re-animation of the perception that on the previous occasion represented the cessation of the

disturbing restlessness, in this case the sensations and perceptions accompanying the act of being fed.

In other words, the child imagines it is being fed, a process known as hallucinatory gratification of a need, in which a perceptual identity of the current situation with a previous one is brought about. Under pathological circumstances in the adult this process is apparently capable of procuring satisfaction over a long period of time. An example frequently seen is that of a hallucinatory psychosis in which the patient secures in his imagination something that is denied him in reality, such as the restoration of a lost object of affection; the same is to a less extent true of ordinary day-dreaming. As a rule, however, and especially where the exciting stimulus is insistent, such as in the case of an organic need, the imagined gratification soon ceases to maintain its capacity for satisfying the need, and recourse must be had to other methods. The diffuse excitation presses against the motor end of the psychical apparatus, and in the instance in question the child squirms and cries. This has the effect of moving the environment—the nurse or mother—to take steps which re-establish the perceptual identity of gratification in the current situation with that of the previous situation, the stimulus of hunger being therefore stilled by the actual sensations of repletion, as distinct from the preceding illusory gratification.

(*To be continued.*)

A New Test for Fatigue.

By JAMES DREVER, M.A., B.SC.

There is no need to go into a detailed discussion of the very extensive literature that now exists dealing with the various investigations and problems in connection with the efficiency of work and the phenomena of fatigue. At the same time it seems advisable to draw attention to one or two of the more important facts established, and the more important theories and hypotheses formulated.

It is necessary to remember first of all

that two quite distinct problems have been studied. On the one hand, there is the problem of the occurrence of fatigue, its causes, its course, and its effects. On the other hand, there is the problem of finding a suitable test for indicating the presence of fatigue, with sufficient certainty to allow of its being employed practically in the school or the workroom, and, if possible, a test that will not only indicate the presence, but enable us to measure the extent or degree of the fatigue. We are here concerned with the second of these problems, but a few words regarding the first will not be out of place.

The definition of fatigue has itself given rise to some difficulty. For practical purposes, it would seem that we might define it as a condition of lowered efficiency in any organism, due to the expenditure of the energy of that organism in doing work, work being, for our purposes, understood psychologically rather than physically or physiologically. It is true that such lowered efficiency would ordinarily show itself, either in impairment of the quality of the work subsequently done, or in diminution of the quantity, or in both. Unfortunately, however, considerable fatigue may apparently be present, without any of these results being produced; at least, if all exertion, as someone has maintained, causes a certain increasing measure of fatigue from the very beginning, it is certain that this fatigue may be very long in showing itself by the impairment of the work, either as to quality or as to quantity.

Thorndike holds that the loss of efficiency brought about by prolonged and severe mental exertion is, after all, insignificant, and, within the limits of normal working, he would appear to be right. He cites in support of this contention some of his own investigations, as well as the very interesting investigation carried out by Miss Arai. Miss Arai wrought without a break for twelve hours, multiplying mentally a number of four digits by another number of four digits, and, at the end of the period, though her time for doing an example was doubled, she was still able

to do the work, the mere fact that she was still able to perform such a task showing what a slight effect the period of work had on her arithmetical efficiency.

It is this fact that, in the normal healthy individual, the impairment of efficiency is relatively so slight, that forms one of the most serious difficulties in the testing for fatigue. Hence we are tempted to look for some test other than impairment of efficiency to indicate the effects of exertion, at an earlier stage if possible than the stage at which the effects of fatigue begin to manifest themselves in this way. In place of defining fatigue in terms of lowered efficiency, we may define it in terms of diminished sensitivity, that is to say, diminished response to a given stimulus. This is how the physiologists prefer to regard it. Practically, however, when we deal with the ordinary work of the human being from our psychological point of view, the two definitions come to the same thing, that is, if we include under "stimulus" the voluntary effort put forth in doing work. But the investigations of the physiologist indicate the possibility of defining fatigue in still other terms: in terms of degree of voluntary control of motor impulse or mental process. The new test for fatigue, to which we wish to draw attention, exploits this third possibility.

The physiological study of fatigue is naturally concerned in the main with the first problem of fatigue, and with this problem in a relatively simple form. The physiologist has concerned himself mainly with fatigue in muscles and their associated nervous elements. He can usually isolate the various parts of the organic structure so as to study the effects of stimulation, now at this point, now at that. Generally speaking, the physiologist has tended to begin with the most simple case of fatigue, the fatigue of the muscle itself, and to work backwards to fatigue arising under more and more complex structural conditions, and therefore under conditions which approximate more and more to ordinary life conditions.

The main facts established by the physiologist appear to be the following.

The working of a muscle produces fatigue in the muscle, if the stimulus is a direct stimulation of the muscle, and the result in the muscle is the using up of carbohydrates and the production of various toxic substances, with the gradual diminution and ultimate cessation of muscular contraction. If the stimulation of the muscle is through a nerve, the muscle itself is protected against an extreme fatigue effect of this kind by the fatiguing of the so-called "end-plates" of the nerve fibres in the muscle, which yield to fatigue first, and cease to stimulate the muscular fibres before the latter are quite fatigued. The nerve fibres themselves are fatiguable only with great difficulty. Where the stimulus reaches a muscle as the result of a sensory stimulus, as in a reflex, another "fatigue point" shows itself which, in its turn, in the living animal, protects the "end-plates" from their fatigue. This "fatigue point" is at the synapse or junction—though there is no real junction—where the stimulus passes from the neuron carrying the sensory impulse to the neuron carrying the motor impulse to the muscle.

No doubt the nerve cell can also become exhausted, but this we must regard as a real depletion of energy. The fatigue at the synapse does not imply any depletion of energy, but merely an increase of resistance. But though this fatigue involves no depletion of energy, it does involve interference with the control that can be exercised over the direction a motor impulse will take. It must ultimately, therefore, involve real and unmistakable signs of fatigue in the kind and amount of work produced.

This "fatigue point" at the synapse, which was established by Sherrington as a result of a characteristically brilliant series of experiments, is of the very first importance. According to Sherrington's view, a view which McDougall also has adopted and applied widely, the first phenomena of fatigue in the living organism are associated with the increase of resistance at the synapse, across which the stimulus must pass to the motor structure, or the executive machinery. This increase

of resistance will necessarily involve an increase of stimulus, if the motor effects are to continue, if the machinery is to continue working as before, and the increase of stimulus, through the liberation of more energy, will cause synapse resistances which were previously sufficient to protect their motor structures from stimulation to be no longer sufficient. Hence the motor effect will extend to adjacent structures, and extend progressively, as the resistance at the original synapse increases, and as the energy liberated to overcome it increases in proportion.

An ergograph experiment carried out by Ash furnishes an admirable illustration of what happens in the case of muscular exertion. If, while a trace is being taken of the flexions of the middle finger, a lever is attached to the third finger and another to the forefinger, both these fingers being also attached to springs which will compel them, if moved, to overcome the same resistance as the middle finger is overcoming, then, before the extent of the flexions of the middle finger shows any appreciable diminution, these other fingers will begin to be flexed, and the extent of these subsidiary flexions will progressively increase, as the flexions of the middle finger diminish in extent, and as more and more effort is required to continue the work. On the other hand, if these fingers are kept immovable until the middle finger can no longer contract, and then released, flexion of the middle finger is again obtained, often with its original amplitude, and a new fatigue curve can be traced. In this way, indeed, three successive fatigue curves can be obtained from the middle finger, by releasing the other fingers one at a time.

We may now turn to the consideration of the position reached in the study of work of a more or less intellectual kind. In this case the problem is much more complex, because of the fact that energy may be liberated and resistance modified by factors which are not easily measured or controlled, as well as by the fact that the products of intellectual work are not easily measurable.

Elaborate studies of the work curve in mental work were first made by Kraepelin and his students. For the work they used chiefly additions of single digits, and the efficiency of the work was measured by the number and accuracy of such additions performed in unit time. The work curve obtained in this way proved to be very irregular. The second stage of the study, therefore, was to determine the causes of the various irregularities. Five main factors affecting the efficiency of work were distinguished—practice, fatigue, “warming up,” adaptation, and spurts. All the four other factors tended to mask the effects of fatigue.

One obvious result of these investigations was, therefore, to throw into strong relief some of the main practical difficulties, which testing for mental fatigue must face. Through practice work becomes easier. Hence, not only is the effect of fatigue masked through more work being done, but the tendency to fatigue is itself diminished with increasing practice. “Warming up” and adaptation both tend to increase the output of work in its early stages, and to accentuate the effect due to practice. Spurts occur at intervals throughout the work, and are not always easy to explain. They evidently mean, however, that all the energy available is not being used, and that, under certain conditions, more energy can be released. Thus they seem, in some cases at least, to have some bearing upon the mode in which efficiency of work may be affected by another factor of the first importance—interest. In general, two well-marked spurts can be distinguished, an initial spurt, and a final spurt, but the latter can be eliminated by keeping the subject ignorant of the approach of the end of the work.

All these factors can be explained in terms of Sherrington's theory of the synapse. Practice lessens resistance. “Warming up” makes more energy available. Adaptation, through the inhibition of useless waste of energy in various directions, also makes more energy available. Spurts indicate that there is always a reservoir of energy that is not being utilised.

As a rule the effects of “warming up” and of adaptation cannot be separated, though Kraepelin claimed to be able to separate them, and it is true that the “warming up” effect disappears more quickly than the adaptation effect during a pause. The practice effect can be eliminated, or almost eliminated, in testing for fatigue, by making the subjects expert in the piece of work, before we begin our experiment. It is perhaps worth noting that Thorndike denies that any of these factors, with the exception of practice, is an invariable condition of work.

Though all these factors can be expressed in terms of Sherrington's theory, it would be a great mistake to suppose that, in the study of mental fatigue, we are faced with the same kind of problem as in the study of muscular fatigue. The difference, which is not merely a difference of complexity, though there is that also, is of such a kind as to necessitate the employment of entirely different methods of study, and to raise at the very outset the second problem in connection with fatigue, the problem, that is to say, of finding a reliable test to indicate its presence, and if possible to measure it. It is a comparatively simple matter to study the course of fatigue in the case of muscular activity. Mental fatigue presents difficulties of the most formidable description. When we assume that all mental activity involves cerebral activity, how and why we do not know, and that it is in proportion to cerebral activity we are not any farther forward. We do not know what cerebral activity is, nor do we know how cerebral activity can be measured. We can only attempt to measure cerebral activity by certain mental products and processes. When we do so, we have no guarantee that the same product will measure the same activity at different times, and it is quite impossible to compare quantitatively qualitatively different kinds of mental product. In the face of these and similar difficulties, it is obvious that, before we can hope to begin the scientific study of mental fatigue we must first of all discover a method of indicating and measuring it.

(To be continued.)

Psycho-analysis and Education.

By MARY ALDEN HOPKINS.

[Psycho-analysis is coming to play such an important part in the treatment and cure of mental troubles, and therefore in education, that parents and teachers would do well to obtain some clear information on the subject. The following narrative (slightly modified) by Mary Alden Hopkins appeared in *Everywoman's World* (Toronto) for January, 1916, and puts the essentials of the psycho-analysis method and treatment with great clearness and simplicity.]

When a little girl was seven years old a queer habit of smacking her lips grew beyond her control. At the same time she developed a curious way of walking. Her mother tried in vain to break her of these habits.

A doctor treated her for St. Vitus' dance. Under his care she grew much better, but the lip noises and jerkings would sometimes come back when she was tired or excited. After a time a psycho-analyst became interested in her. A psycho-analyst is a neurologist who treats nervous diseases by analysing the subconscious mind of the patient. Her analyst sought the reason why she smacked and limped. He knew that to attempt to repress these outward signs without finding what lay behind them was like trying to stop a headache without knowing whether it came from the stomach or the eyes. The analyst picked her up on his knee and asked:

"Why do you smack your lips?"

She considered the matter with her head tipped on one side.

"I don't know," she replied; "I can't help it."

"Of course you can't," agreed the analyst, "but it would be interesting to know why you do it. You know there is always a reason for everything."

At first she couldn't remember when the habit began. But the analyst had patience and tact, and knew a great deal about children. After a time she recalled the beginning. Two years before her mother

had told her the reason she must always have her window open at night was because she mustn't breathe the same air twice. When she breathed it in it was good air, but when she breathed it out it was bad air. She drew an unexpected inference from this lesson in hygiene. She thought that since she was for ever making good air into bad air she was injuring the air. "Perhaps," she thought, "I can kiss it well again, the way mother kisses my bumps well." Then began the funny smacking noises—little healing kisses to the air. The habit became automatic. It continued long after she had forgotten the reason.

Next the analyst found out about the stooping motion. She was afraid she hurt the floor when she stepped on it. Perhaps, she thought, if she touched it gently now and again the floor would understand how sorry she was. The analyst did not laugh at the child. He explained in simple words the chemistry of air and the senselessness of wood. When the reason for the kisses and the touches was removed the motions ceased—somewhat as the rash disappears when the measles are cured.

This influence of the subconscious mind over conscious actions has been shown by the analysis of thousands of cases of children and adults, of normal and abnormal individuals. At one extreme a new-born babe has no past experiences to influence his impulses. At the other extreme an old man has a lifetime of more or less forgotten loves, angers, jealousies, sorrows, joys, fears and desires to determine his simplest action. Even a child has a little store of affections, eagernesses, shocks, and griefs which slip easily from the forefront of memory back into the deep unexplored recesses. In Europe, where psycho-analysis is better known than here, women are taking up the analysis of nervous children as a profession. The chief requisites are a thorough knowledge of psychology, great patience, and a sympathetic attitude. A psychologist ministers to a child's mental, spiritual, and emotional development, just as a general practitioner ministers to its physical development.

One psychologist told me about the first child she analysed. James ate with appetite, played vigorously, and slept like a dormouse. He satisfied his parents in every way but one—he couldn't learn his lessons. Matters came to such a pass that they called in a psychologist. She became the boy's governess and settled down to study him. Now if a child is neither physically handicapped, as by adenoids, poor vision or malnutrition, nor mentally subnormal, the trouble comes from an emotional disturbance. It is obvious that a boy's lessons will suffer if he thinks too much about baseball. It is equally true that lessons will suffer if his thoughts are drawn away by some deeply buried subconscious phantasy.

James would sit for hours over his book, hands clutching his yellow locks, lips mumbling the words in dogged determination. When he tried to recite he did not know a word he had been studying. Yet the lad was no fool in other matters. The analyst knew that though eyes and lips were on the lesson, the mind was far afield. It was her task to discover where. James couldn't tell her. He honestly thought he studied hard. She listened very carefully to all he said, hoping to discover the distracting interest.

One morning the analyst, glancing out of the window, made the casual remark: "I see Miss Hess, who was your teacher last winter."

The boy looked out. A moment later he spoke.

"Will you give me a stamp?" he asked.

The psychologist wondered by what twist his thoughts had gone from the sight of his teacher to a stamp. Very carefully she questioned. Starting from this clue she found that James hated Miss Hess! That he hated all teachers! That the sight of the teacher had set him mentally composing a letter to tell her how completely abominable she was! In his imagination he had written the letter, sealed it, and was asking for a stamp.

Though the analyst had now discovered the root of the trouble, her task was only half done. Gently and tactfully she com-

pelled James to face squarely the ugly dreams of revenge in which he was half unconsciously revelling. When he realised the time and energy he was spending in these childish phantasies he was ashamed. Now that James understood, he was on the watch, and pulled his mind back, when it went sliding off in a day dream. He began to learn his lessons like any boy, and the analyst went on to her next case.

A mother cannot analyse her child's subconscious mind. That requires special training. But if she understands how the child is swayed by hidden influences she has a basis from which to proceed intelligently. Naughtiness, queeriness, tempers and crying fits are simply signs of what is going on in children's minds. They cannot be satisfactorily dealt with apart from their causes—and mothers should know this.

Analysts are opposed to crude punishments that repress these symptoms instead of dealing with the conflict which underlies them. When a child is rude, the anger is more important than the words. Scolding may make a little girl hold her tongue, but will not remove the ugly feeling. When a boy pilfers, it is important to find out why he thinks he needs the pennies. A thrashing may drive in the thieving habit. When a boy kicks a dog the bullying impulse must be changed into a desire to protect animals. Infant savages must be tactfully guided into civilisation, not forced into good behaviour. All this takes time and patience and wisdom.

Another analyst told me about many of her cases. Under the technical detail and method lay a principle so simple that any teacher or mother can apply it. "I always try to discover *why* the child cries or lies or steals," she explained. "If I can only find out what is behind the naughtiness I can deal with it intelligently. You would never guess what strange reasons I discover. I find children lying because they want more attention. They prefer dismay and anger to lack of notice. They want to be the wonder of their little world. Often children steal because they are not

loved enough. That sounds absurd, but it is true. The child wants love, but is too young to comprehend his need. He only knows that he wants something, oh, so badly!

"Once a mother consulted me about her two-year-old daughter who had terrible crying fits at night. The mother had done everything to break her of the habit. She had even spanked her. Of course I stopped that immediately, for a child should never be spanked. This child was healthy, so sickness was not the cause. I thought she might be crying to get her mother's company, and told her mother to put her in the next room alone whenever she cried. It did no good. The little girl would come to her mother in the deepest distress, sobbing: 'Mother, I can't stop crying! You'll have to put me in the other room!' That gave me a clue and I discovered the trouble. The child had an abnormal appetite for being noticed, and wanted everybody to be thinking about her. I advised her mother to put her to bed in a distant room and tell her that she needn't even try to keep from crying, for no one would be disturbed. For a few nights she did cry, but no one came near her, and she did not know that anyone was listening. When crying no longer attracted attention she stopped it. She went quietly to sleep every night and slept soundly!"

Suggestions for Study and Practice.

The New Humanism. "The School should evolve towards an idealised model of the world, and simultaneously the world should evolve towards the realised model of the school; perpetual and complementary tasks for the human race. The great statesman sees the nation as family writ large.

"We believe the time is coming when every teacher will be expected to reach a certain reasonable common standard in the three fundamental sources of culture—Scholarship (or Folk) Culture, Nature Culture, and Craft Culture—and that, in addi-

tion, he (or she) will be specially qualified in one of these branches, so that every teacher will be a humanist, according to his (or her) bent and character."—*Benchara Branford*, on "The New Humanism," *The Journal of Education*, January, 1916.

Clinical Psychology. "Clinical psychology is not synonymous with medical psychology or psychopathology or psychiatry. Clinical means literally bedside, and was applied originally to the first-hand (bedside) method of studying the *individual* patient. In psychology it designates the method of determining the mental status or peculiarities of an *individual* by a many-sided process of first-hand observation, testing and experiment. The clinical method may be used in the study of normal as well as of abnormal mentality. I suggest the use of the words, *psycho-clinical*, *psycho-educational*, and *medico-clinical* to designate, respectively, psychological, educational, and medical examinations by the *clinical* method...The psycho-clinician is concerned with the proper mental hygiene, the correct educational classification and the skilled pedagogical training of the mentally exceptional child. The aim, in one word, of his basic effort is orthogenesis...The function of the psycho-educational clinic is distinctly *orthophrenic*: namely, the righting or correction of the mental functions which are deviating or abnormal, either by the removal of physical handicaps or by proper mental and educational treatment."—*Dr. J. Wallace Wallin*, in his book on *The Mental Health of the Child*.

Notices and News.

Our Journal.—The Journal Committee has had to consider very seriously the question of ways and means with regard to CHILD-STUDY. Owing to the limitation, by the Government, of the supply of paper to the trade, and the greatly increased cost of labour and material generally, the price of printing has gone up very considerably. The Committee felt that it was most desirable that the work of the Association in spreading information concerning child-study should not entirely cease, even in such adverse circumstances as now prevail. At

the same time economy is both a national and an individual necessity. It was resolved, therefore, that the Journal should be reduced to twelve pages of text so long as the War continues. We feel sure that the sympathy and practical support of our readers will be generously extended to the Committee in this matter, and all will hope that we may soon return to the former, or even a larger, size of the Journal.

The Sex Question.—A Research Committee of the Society of Education has undertaken an enquiry, the object of which is, by means of a Questionnaire, to collect from adults information as to the ways in which they, as children, became aware of the facts of sex, birth and parenthood. It is felt that a mass of such information, together with an expression of personal opinion upon the recognisable effect of such means of securing information, should provide considerable illumination of the problem of sex-education.

The Research Committee takes this opportunity of making the enquiry known, and of seeking the co-operation of adult persons who are willing to assist the enquiry by answering the Questionnaire. With a view to obtaining unfettered reply, the Committee asks that the forms should be filled in and returned anonymously.

Application for the Questionnaire should be made to the Secretary of the Research Committee, Society of Education, 9, Brunswick Square, W.C.

A Reading and Discussion Circle has been formed in the South-West District of London. Meetings are held at 69, Hosack Road, Balham, S.W., by the courtesy of Mr. and Mrs. Durrie Mulford. The next meeting is on April 4th, when Miss Dailey will read a paper on "The Psychology of Number," and give a demonstration of her number teaching apparatus. The Hon. Sec. of the Circle, Miss A. M. Teague, LL.A., 48, Lavender Gardens, Clapham, S.W., will be pleased to furnish particulars of the work of the Circle to members of the Child-Study Society.

The Edinburgh Society.—The article on "A New Test for Fatigue," in this number, was read at a meeting of this Society, on March 8th of this year, to introduce a discussion.

The London Society.—The article on "The Unconscious Life of the Child" was read at a meeting of this Society on March 16th last.

A Dutch Translator Wanted.—We have received the first number of a new Dutch magazine called "Kinderstudie," and want someone to review it for us. We cannot offer any payment. Who will volunteer?

Reviews.

Estudios Pedagógicos. No. 1, Second Series. January, 1916. 50 pesetas per number.

This is the first number of a revived educational journal published in Jaén in Andalusia, under the auspices of the Old Students' Association of the Escuela de Estudios Superiores del Magisterio, consequent upon the decision of an Old Students' Re-union in Madrid. Apart from a *critique* of Natorp's "Social Pedagogy," short notices of educational movements, the doings and intentions of the Old Students' Association, etc., and a translation of a lesson in moral instruction from Buisson, it consists of three articles by members of the Association.

Senor Alfonso Barea discusses "The Real Problem of Pedagogy" as a science. Physical education is not part of the science of pedagogics—it is a mere application of physiology; nor is the question of the maintenance of order and discipline in school—that is largely a matter of intuition in the teacher as an artist, aided by empirical rules. Similarly he dismisses the claims of school organisation, hygiene, etc., to a place in the science of education, although these things must be known to the teacher. Further, the educationist as such is not concerned with the *end* of education—that is determined for him—his real concern is with the *means*. The constituting principle of the science of education is "the efficacy of each of the means which are employed in each of the moments of the formation of a soul."

Senor Francisco Ballesteros, head of the practising school at Malaga, makes claims for practical studies in school, and lays down principles of procedure, taking as guiding consideration the fact that all practical excellence is arrived at in three stages:—(1) *observation*, (2) *imitation*, (3) *fixation* accompanied by correction, or *criticism*.

Senor Antonio Pasagali y Lobo commences a series of discussions on the "Problems of the Training College," by an article on the peculiar place and proper function of the training college in a system of education, and its differentiation from other institutions by its pre-occupation with method. Incidentally he expresses desires for freedom of teaching in the elementary school.

PUBLICATIONS RECEIVED.—*Journal of Education*; *Child-Life*; *The Parents' Review*; *The Journal of Educational Psychology* (U.S.A.); *Educational Review* (U.S.A.); *School and Society* (U.S.A.); *Child-Life* (U.S.A.); *The Training School Bulletin* (U.S.A.); *School and Life* (Petrograd); *L'Intermédiaire des Educateurs* (Geneva); *Archives de Psychologie*; *Kinderstudie* (Amsterdam); *Estudios Pedagógicos* (Spain); *El Monitor de la Educación Común* (Buenos Aires).

Child-Study.

The Journal of the Child-Study Association.

Vol. IX.—No. 4.

MAY, 1916.

The Unconscious Mental Life of the Child. II.

By ERNEST JONES, M.D., M.R.C.P.

It is on the basis of such experiences as the one just described that the child's mind comes to develop the second system of mental activity mentioned above. This differs fundamentally from the first in both its aim and its mode of functioning. We have seen that the effect of a stimulus applied to the mind is to set up a psychical impulse which awakens the memory of something that on a previous occasion stilled this excitation, and the goal of which is to revive the perception that accompanied this gratification. The most direct way of accomplishing this is for the stirred memory immediately to excite a new perception of the same kind in the form of a hallucination. But the bitter experience of life soon shews the inadequacy of this method of satisfying the need, and modifies this primitive mode of mental functioning—or, rather, substitutes for it a second, more practical one.

In the action of this second system the tendency of the psychical impulse to regress, as it is technically called, from the memory picture backwards towards a corresponding perception is inhibited, and the accompanying energy is directed towards other ways of attaining the desired goal, namely, the reproduction of the satisfying perception. The only other possible path to this is a complicated one *via* the motor side of the mind, as a result of which an alteration in the environment is brought about that produces a real perception instead of an imaginary one. Thus an adult who is hungry enters a restaurant and gives an order for food, or takes some corresponding step of a motor

nature. Regarded as a whole, it is clear that, however complicated the path followed that leads to the desired alteration in the environment, it in any case represents merely a circuitous route to the same goal, the wish-fulfilment, which in the primary system was attained by the direct but unsatisfactory method of hallucination.

The two systems, therefore, though they aim ultimately at the same goal—the allaying of excitation—achieve this by quite different means; the one leading to imaginary gratification, the other to real gratification. They may in this respect, as well as in others, be compared to the difference between day-dreaming and action as two methods of satisfying desire. We have now to consider more closely the differences in the actual working of the two systems, the second of which supplants and controls the first. There are two main differences between them, and they have this in common: that they are both concerned with a control and *inhibition* of the free movement of psychical energy characteristic of the first system.

Everything in the functioning of the first system is concentrated on this one matter of allowing the freest possible movement to take place throughout the whole system. Thus an excitation passes with the greatest readiness from one idea or memory to another, no form of association being too narrow a bridge to allow of the passage. The well-known characteristics of logical thought are entirely lacking; direct contradictions are ignored, the slightest play on words is made use of, ideas are grouped together that have only faint resemblances between them, and there results a general levelling of thought not altogether unlike the kind familiar to

psychiatrists in the condition of acute mania.

In the second system, on the contrary, a ban is placed on this freedom of movement. The first reason for this is, so to speak, an economical one. As much of the energy as possible has to be reserved for its ultimate purpose of altering the environment by means of motor effort, and so all dissipation of it has to be so far as possible avoided. The energy accompanying the original excitation is localised at its appropriate site, while tentative efforts are made to seek out the memory traces that are most suitable for leading to the desired motor goal. The localisation of the energy produces, it is true, a temporary state of tension at that site, but as soon as the channel is cleared in the appropriate motor direction the localising inhibition is removed and action at once follows.

The second reason for the inhibition in question has to do with the pleasure-pain principle. If the primary stimulus which we have imagined is definitely disagreeable, such as a fright or pain, then incoordinate motor manifestations are aroused, until sooner or later the individual becomes withdrawn from the sphere of action of the stimulus and pain ceases to be felt. Here there is no subsequent tendency to re-animate the painful perception, *i.e.*, to imagine the pain; on the contrary, in the primary mental system there will be a tendency to get away from the painful memory whenever there is any chance of its being aroused, and to excite the memory would bring with it the danger of the excitation passing over, as a regression, into the perception, with the production of fresh pain. This turning away from the painful memory, which represents no doubt a repetition of the original flight movement, is the first example and the prototype of what in later life would be termed psychical repression, and it is an ostrich-like behaviour that is commonly enough to be observed in adult life.

In the first mental system, therefore, anything disagreeable is simply ignored

and cannot be incorporated at all in any psychical concatenation; the system can do nothing except imagine the fulfilment of wishes. The second system, on the other hand, cannot ignore the painful in this way, for it has to have at its disposal as many memories as possible in order to use the knowledge of their nature in making its selection of suitable paths for affecting the outer world. It can make use of a painful memory for this purpose only when it is able in some way to prevent the development of pain that stimulation of a painful memory would naturally cause. It prevents this in the same way as we saw above it prevents a diffusion of energy, namely, by exerting an inhibiting and localising influence, in this case, on a painful affect. A common analogy to this in daily life is when a man brings himself in cold blood to speak of a topic which under other circumstances, *e.g.*, when his feelings are not under control, would prove extremely painful; that is to say, although the idea is actively in consciousness he can suppress the feelings connected with it. This affective inhibition, as it may be called, is never quite complete; but, on the other hand, if it fails to take place, then the primordial pleasure-pain principle enters into operation, the memory is discarded, and cannot be used even by the second mental system. This is just what happens in the important mechanism of psychical repression.

We have now given an outline sketch of the two mental systems present in the earliest period of life, and only a few words will be necessary to indicate the mode of transition from these systems into the conscious and unconscious sections of the mind that are met with in later life. It may be said that the first system remains practically unaltered, and constitutes part of the unconscious mind of later years. The second system undergoes a series of progressive changes in development, the study of which belongs to genetic psychology rather than to psycho-analysis. The relationship between the two systems, however, become modi-

fied in a number of important respects, concerning which something must be said.

The control of the primary system of thought by the secondary remains imperfect throughout life, and under a number of circumstances the second one, our logical, conscious thinking, falls partly or entirely under the influence of the first. The most perfect examples of this are in delirium, insanity, and our ordinary night dreams, which is one of the reasons why the study of dreams affords the key to the understanding of insanity. Closely allied to these conditions are the common psycho-neurotic "nervous troubles," which are the expression of a compromise between the two systems. The action of the unconscious constantly affects our daily life, our character, judgements, and conduct, in a multitude of subtle ways that cannot be here described; but I may refer to the common occurrence of a total failure on the part of our logical, conscious thinking processes in such matters as apparently inexplicable forgetfulness, slips of the tongue or of the pen, errors in memory, and like tricks of the mind. In all these cases the second (logical) system has fallen under the influence of the first (unconscious) one, and the apparent failure in the mental machinery is really nothing other than the normal, correct functioning of a quite different mental system.

Inadequate control on the part of the secondary system, with the consequent danger of the situation being more or less completely taken over by the primary one, is essentially due to the concomitant action of two factors, both of which originate in childhood life. It has to be remembered, in the first place, that the secondary system develops, especially in its fuller elaboration, more slowly, and consequently later, than the primary one, so that the kernel of the mind remains throughout life the unconscious group of wish-impulses. They cannot be altered or worked upon by the preconscious and conscious parts of the mind, the power of which is restricted to the guiding of these wish-impulses into suitable and practicable directions.

Now among the unconscious and indestructible wish-impulses are a considerable number the fulfilment of which would be in flagrant contradiction with the aims of the later developed secondary system, and these on ethical, social, æsthetic and similar grounds. The fulfilment of such wishes would no longer produce a pleasurable affect, but a disagreeable one, and it is this affective transformation of pleasure into pain that constitutes the essence of psychical repression. What in the child is expressed in this simple form of dislike takes on in later life more elaborate forms of repudiation, condemnation, and so on.

Examples of affective transformation in early childhood are very easy to find: A child of two will in all innocence do things that disgust him when he is a few years older; a boy of five will torture animals, hurt his sister's feelings by destroying her most cherished possessions, and purloin the property of others with a callousness that would be impossible to the same boy a few years later on; a girl of six will wear skirts of a length that would bring a blush to the cheeks of a maiden of sixteen, and will, of course, think nothing of it; and similar examples are a matter of everyday observation. The standards are entirely different at the two ages, as they are in the two systems of the mind, and indeed for much the same reasons.

The state of conflict in which a large part of the primary mental system permanently remains in regard to the secondary system, which later becomes the conflict between the unconscious and consciousness, radically affects the relationship between the two systems. It is no longer possible, in such cases, for the secondary system to restrict its activity to the mere finding of suitable ways to alter the environment so as to bring about a gratification of the wish in question. It is now opposed to the wish itself, and vetoes the gratification of it. This state of affairs is pregnant with consequences for the whole development and activity of the mind. Before the unconscious wish can achieve expression it has somehow to pass the barrier that we described as exist-

ing between the unconscious and consciousness, one which we now see to be a construction of the secondary mental system.

It is rarely possible, at least in mental health, for it to pass this barrier in an unaltered form, and it has to undergo a complex series of modifications before it can emerge in a form suitable to the demands of the secondary system. In this distorting process a certain amount of renunciation is inevitable, at least of the original aim of the wish; and an exchange of aims takes place, the original one being replaced by one better adapted to the standards of the secondary system. The renunciation and exchange are by no means always carried through with the smoothness that might be desired, and the unsatisfactorinesses and frictions so often to be observed in mental functioning can in great part be traced to the difficulties and imperfect success met with in the attempt.

The other factor leading to inadequate control on the part of the secondary system, one which often coincides with the first one just mentioned, is the reinforcement of the primary, unconscious wishes that occurs when they are strengthened by impulses arising from the organic instincts. These are, of course, mainly the instincts of nutrition and sex, and, as the former never enters into anything approaching the violent conflict with the standards of the secondary mental system that the latter habitually does, it is comprehensible that, as is fully confirmed by investigation, sexual impulses are principally responsible for the more serious conflicts between the two regions of the mind.

It was remarked above that the two factors now under discussion both take their origin in the period of childhood, so that it may be appropriate to say here a few words on the much-discussed subject of infantile sexuality, or, rather, on the interesting question of how it comes about that the very existence of so evident a phenomenon can be overlooked and even denied. This I would ascribe to the following circumstances:—In the first place,

there is the strong tendency, sometimes fully carried out, artificially to restrict the very conception of sexuality not merely to excitations and their consequences in the genital area, but even to certain selected ones of these, the selection being arbitrarily performed rather on ecclesiastical than on scientific principles.

Now, although no psychologist or biologist would seriously subscribe to such a limited definition, the tendency in question is so strong that, however much reason may say to the contrary, it often continues unconsciously to influence the attitude on such matters. It is, for instance, easy for some people to forget that the appearance of the hair, the depth of a voice, the sparkle in an eye, are matters that have very definite sexual aspects. In the next place—and this is perhaps only another side of the same tendency, there is apt to be concentrated too much attention on the end aim of the instinct, on its culmination in the fusion of the two genetic elements, and the absence of this element in the male below the age of puberty is triumphantly pointed to as proof that no sexual manifestations at all are possible before this period. To maintain, however, that until a given function has attained its final form nothing at all of it can be present is a view that is contradicted by observation of any single function of the body or mind; it would be practically tantamount to asserting, in spite of all the evidence to the contrary, that a boy cannot speak until his voice has "broken."

All that is true in this attitude is that the manifestations of the sexual instinct before and after puberty shew certain striking differences, the earlier manifestations being, as might be expected, more tentative and preparatory in nature than the later ones. If, for instance, one adopts the convenient division of sexual manifestations into the fore-pleasure group, the tendency of which is to pass gradually into stages of greater excitement, and the end-pleasure group, the tendency of which is to procure relief of tension in a culminating act, then one may say that the manifestations before puberty

are almost entirely confined to the former group. Further, the earliest phases in the evolution of the sexual instinct comprise many modes of activity, e.g., various interests in excretory functions, that through repression are made partially or wholly to disappear from sight before the final, adult form of the instinct is attained. The pre-puberty manifestations, therefore, are much more diffuse and undifferentiated than the adult ones, which are developed out of the earlier ones by a gradual process of refinement and elimination. This increasing restriction is brought about by repression of the discarded elements, and is the very reason why the sexual nature of the latter is no longer recognised.

Some characteristic features of the *content* of the unconscious may be inferred from what has been said as to its genesis. That it is predominantly, though by no means exclusively, of a sexual nature has already been indicated. A still more striking feature is its ruthless and absolute egocentricity. It is difficult to convey this without giving examples in detail, but I may, for instance, say that to bring about a European War, with all its appalling desolation, for the sake of a perfectly trivial personal gain, such as a slight increase in salary, is the kind of unconscious phantasy which I know from repeated experience to be not at all an exaggeration. No consideration whatever is paid to the interests or feelings of any other person than His Majesty the Ego.

In this the unconscious exactly reproduces the mental attitude of the infant, as portrayed, for example, by Browning in "A Soul's Tragedy": "The sweetest child we all smile on for his pleasant want of the whole world to break up, or suck in his mouth, seeing no other good in it—would be rudely handled by that world's inhabitants, if he retained those angelic infantine desires when he has grown six feet high, black and bearded." To which it may be added that many more of them find the retention of such desires compatible with the height of six feet than is good for their own peace of mind or for that of the world.

Side by side with this feature may be placed the fact that the unconscious is entirely non-moral. That this is inevitable will be realised when one remembers that the unconscious dates from a period preceding any knowledge of good and evil—hence the legend of the Golden Age of Innocence—and has since remained impermeable to such knowledge. It is a great mistake to call these unconscious impulses immoral; they are not that in themselves, but only when expressed in terms of another world, the world of consciousness. Their own tendency is neither against morality nor for it, but purely and simply towards the satisfaction of their own needs. One might just as well speak of an animal or an insane patient as being moral or immoral; the infantile mind and the unconscious mind are neither. In the unconscious, social, moral, ethical, altruistic, and æsthetic considerations are simply ignored, as completely as though they did not exist.

I have now discussed, though only too briefly, the nature, genesis, content, and mode of functioning of the unconscious mental life of the child, but I have not been able to do more than touch on what is perhaps the most interesting and profitable aspect of the subject from the point of view of child-study, namely, the way in which these unconscious impulses become translated into the more recognisable traits in the child's character. I will conclude, however, by expressing my opinion that for any really serious study of the development of the child's mind a first-hand knowledge of the unconscious mental life constitutes an indispensable basis.

REFERENCES.—In addition to Freud's own writings, and the three journals on the subject (*Jahrbuch der Psychoanalyse*; *Imago*; *International Journal of Medical Psycho-Analysis*), the following works may be referred to in the present connection:—Ferenczi, *Contributions to Psycho-Analysis*, especially chapters 8, 9, 10, 13; Von Hug-Hellmuth, *Aus dem Seelenleben des Kindes*; Ernest Jones, *Papers on Psycho-Analysis*, especially chapters 7, 19, 20; Pfister, *Die Psychoanalytische Methode*.

A New Test for Fatigue. II.

By JAMES DREVER, M.A., B.SC.

The methods which have been hitherto employed for the detection of mental fatigue, or generally central fatigue, as distinct from local, belong to one or other of two main groups. They are, as it is usually expressed, either direct or indirect. That is to say, they are either attempts to measure mental efficiency directly by the quantity and quality of mental performance, or they are attempts to measure mental efficiency by some subsidiary change, that takes place as a result of mental exertion.

The direct tests have generally been considered the more reliable as tests of fatigue. The most important of those hitherto employed are the following three :

1. *Dictation*. This seems to have been first employed by Sikorsky as far back as 1879. The experiment has since been repeated, mainly as a group or class test, by a number of investigators. Perhaps the best known investigation is that of Friedrich, published in 1897. Friedrich used the test as a group test to trace the rise of fatigue during the course of a school session. He estimated fatigue by the number of spelling errors occurring. Thus he got 40 mistakes before work began, 70 after one hour, 160 after two hours, 190 after three hours. The test is a very easy one to give, but this method of using only qualitative data in estimating fatigue is quite indefensible. We must know at least what relation the errors bear to the total work done. The main objection to the test, however, is the difficulty of standardising it. We cannot easily get dictations of precisely the same difficulty. Even if we could, we cannot simply equate one spelling error to another. Not only are words different as to difficulty, but different words have different degrees of difficulty for different individuals and at different times.

2. *Cancellation*, or some analogous test. In the cancellation test the subject is asked to strike out a certain letter, or certain letters, in a specially prepared

sheet of letters, or in ordinary reading matter, as in the leading articles of a newspaper. This test, which was first employed by Bourdon, seems to be one of the best tests hitherto devised. It is, however, very much affected by practice, adaptation, and possibly also by muscular fatigue. In calculating efficiency two quantities must be taken into account, the amount done and the accuracy. Whipple proposes the formula, $E=SA$, where E is efficiency, S the total number of letters covered, and A accuracy, which is measured by the ratio of the difference between letters correctly marked and letters wrongly marked, to the total number of letters that should have been marked. The measuring of efficiency by the product of amount done and accuracy is the simplest method of taking the two quantities into account, but it is not entirely satisfactory. Possibly also variability is a better indication of incipient fatigue than efficiency measured in this way.

3. *Calculation*. This is the test most frequently used, and, like the last, can be employed both as an individual test and as a group test. Simple additions or simple multiplications are the most suitable arithmetical processes. Nothing is gained by making the calculations difficult. This must be regarded as a fairly reliable test, but it is a test which requires much care in the elimination of practice effects, and the difficulty of finding a satisfactory formula for efficiency, by taking both quantity and quality of work into consideration, is even greater than in the case of cancellation.

These are by no means the only direct tests which have been employed. Ebbinghaus's "Combination Test," and various memorising tests, deserve to be mentioned, but these are generally open to serious objections, and, in our experience, seldom yield satisfactory results with children. The difficulty of marking the "Combination" test is alone sufficient to put it out of court in the meantime.

The indirect tests are all very interesting, and most of them have given rise, at one time or another, to a good deal of controversy. In each case, it is assumed that

central fatigue is accompanied by a deterioration in the function tested, and, if we claim the test as a basis for measuring the fatigue, the deterioration must bear some constant relation to the amount of fatigue. Probably a dozen or more indirect tests have been employed, but five of these deserve special mention. These are :—

1. *The "æsthesiometric index" test.*

In this test we measure the smallest distance between two points touching the skin, which enables the subject to say that there are two points. This is historically the most famous of the indirect tests. Originally the most extravagant claims were put forward on behalf of this, as a test for fatigue, though at the present day it is generally held that the "æsthesiometric index" may indicate the presence of fatigue, but it is a very unreliable measure. In this test, however, as in most of the other indirect tests, it will be observed that we have only one quantity to take into account.

2. *The sensitivity to pain test.* A special piece of apparatus, known as an algometer, is employed to measure sensitivity to pain. For the present, this test is under a cloud owing to the extraordinary position, arising as the result of Binet's work. It was at first maintained that fatigue *increases* sensitivity to pain, while Binet maintained that fatigue *diminishes* sensitivity to pain, and put forward the test as a test of fatigue on this basis.

3. *The dynamometer test.* Muscular efficiency is tested by the dynamometer. The advocates of this test therefore claim that mental fatigue reduces muscular efficiency. Comparatively little work has been done with this test. It seems fairly good, but is not very delicate, while familiarity with the apparatus is necessary, and local muscular fatigue tends to develop very rapidly, the effects of any mental fatigue being thus masked.

4. *The ergograph test.* Here again we have a test of muscular efficiency. A considerable amount of work has been done with the ergograph, but the same objections hold as in the case of the dynamometer, and there is no reason to suppose

that the ergograph gives any better results than the dynamometer, if indeed it gives as good.

5. *McDougall's "dot-marking" test.*

This is a test somewhat analogous to the cancellation test. Though it is a comparatively new test, it has undoubtedly yielded good results, and appears to be fairly reliable. It is more of a mental test than any of the others, depending mainly on concentration and control of attention, the subject requiring to mark dots as they pass across an aperture at varying points along the aperture.

Rate or rhythm of tapping, reaction time, persistence of visual sensations, ocular accommodation have also been suggested and employed as a basis for fatigue testing. It will be noted that all the five we have described, and all these, with the exception of rhythm of tapping, can only be employed as individual tests. This is a decided disadvantage, from the point of view of employment for school investigations. Hence, up to the present, nearly all study of fatigue in school, by way of collective experiment, has been restricted to the employment of one or other of the direct tests.

Recently a very interesting test has been added to the list of indirect tests. Within the last twelve months Dr. Isaac Emery Ash has published the results of a study of fatigue in which he employed "reversible perspective" figures as a test. He argues that the study of muscular fatigue shows the first and constant result of physical exertion to be "a loss of control over the direction motor impulses shall take." If analogous conditions hold as regards mental exertion, then any test which indicates loss of control over the direction of mental activity will be the kind of test we require. With respect to the assumption that loss of control is the first and chief symptom of mental as of muscular fatigue, it is worth noting that the value of most of the tests, hitherto employed, depends largely on the mode in which they indicate the concentration of attention, of which an individual is capable at any time. Ash argues further that, if

we can find a test which measures the same process or processes, always and under all conditions, which gives us a result involving only one variable, and which "will be interfered with rather than aided by the exercise of other functions," we have all that we can desire in the way of a test for fatigue. And such a test is "reversible perspective."

(To be continued.)

Parent Educators.

By PROFESSOR BIDART.

Translated by MISS M. S. RYAN, B.A.

2. It is not sufficient to love our children, *we must make ourselves loved by them*. To do this, we must begin early. By the age of six a child's disposition is to some extent formed, that is to say, if he has not begun to love, he will find it difficult to become loving later on. The baby at first smiles, then he likes being caressed, then he will give a kiss himself. Presently he will do without so much outward affection for the sake of giving pleasure to those he loves. These are the stages in the development of a child's love for his parents.

Caresses. Accustom your child from the age of six to eight months to give you kisses, to smile at you and show his love for you in various little ways; a little later, to kiss you morning and evening, when you come back from a journey and so on. "I don't want to force my child," says some romantic mother, "I want him to love me of his own accord." And what if he does not? Will you leave him alone when it is a case of his forming some good habit? First make him acquire the habit, then he will continue it with pleasure and delight. Should he occasionally forget, do not say anything, but when he asks you for some favour, treat him coolly, he will be surprised; you will explain your reason and, according to the circumstances, you will either grant or refuse the request.

Deeds and acts of self-sacrifice. Never forget that love grows by exercise, just as

the body grows by eating. A child must be given opportunities of practising the love he feels. In every such opportunity, he experiences a pleasure, and this repeated will encourage him to do the same again. For instance, require little services so that you may reward him for his good conduct; ask for his help in some little duty in the house; accept the little sacrifices that he will voluntarily impose on himself, *e.g.* if we are ill he will deprive himself of the pleasure of going out, or even of rest. Anything that he will do should be taken in the spirit in which it is given; the best way of inspiring devotion is to know how to accept it, and it requires nobility of nature to accept worthily. Do not say, "It is good for you to do it, but it really does not matter to me," which is both untrue and stupid; but rather, "It is good for you and it gives me pleasure." There is happiness in being with someone to whom one has done a kindness; let us strive to make our children feel that we are indebted to them, it will please them and they will try to increase our indebtedness.

And let us be careful not to expect too much. If the child tries to do what is beyond his capacity he will end in disaster—this is a point often overlooked. The affections can only be exercised gradually, just as is the case with bodily movements. A child will not run until he can stand upon his feet.

In the same way you must wait for the growth of the affections. You cannot expect a child to feel an emotion beyond his age, or make him show a feeling which he is not capable of experiencing. Another common mistake is to expect a child to feel what we feel. We ascribe to him feelings which are proper to the adult; we must remember that everything must come *from* him. If we try to get the child to show some impossible virtue, one of two things must happen: either he refuses to show it and hardens his heart, or he pretends a show of it and acts the hypocrite. This is what happens if we deceive ourselves about his powers and act in ignorance of the laws of his being. Then when

perhaps we find out our mistake, we sometimes commit another error—we blame the child for his want of feeling, forgetting that “nothing irritates children more than this perpetual prying into their feelings.” We give way to our disappointment, again forgetting that “nothing shuts up feeling so much as the sight of a grief which is not understood.” Let the fruit ripen slowly, it will do so in sunshine and good weather, but not by the continual application of a pruning-hook. It is often the parent’s impatience which spoils the child’s nature.

3. *How to make filial duty understood.* The father will explain to the child its duty towards his mother, and the mother the duty towards the father. Neither parent can dwell on his own claims to be loved. A mother cannot say to her child: “You owe your being to me, for I fed and nursed you,” and similarly the father cannot say, “You owe everything to me, for I brought you up and supported you by my labour and hard work”—it is the mother’s duty to point this out to the child, who is likely to forget it. As soon as the father or mother perceives that he or she is the favourite, far from making an unworthy use of this preference that parent will say, “It is not right for you to love me more than your mother (or your father). You must love us both alike; you owe as much to the one as to the other.”

One of the most inconsiderate questions often put to a child is the following: “Whom do you like best, papa or mamma? Which is kinder to you?” Never permit any mischief-making friends to suggest such a thought to your child.

Let us ourselves also set our children a good example in the way in which we cherish and respect our parents. It is not only children who need our tenderness, remember the aged, too. If, unfortunately, the grandparents are dead, respect their memory, visit their graves and bring up your children to imitate their virtues.

4. *Fraternal affection.* The elder girl in the family is the more beautiful, or at any rate she passes as such. She has the prettiest frocks, all the little attentions and

show of affection, also all the flattery. Everything she does is right. Should she strike her younger sister, the action is quite allowable; the younger one is not the favourite. *She* must wear her sister’s old frocks; *she* must endure contempt and neglect; *she* is always lazy or naughty. If at table she eats as much as her sister she is scolded for eating too quickly or too greedily.

The married elder sister pays a visit to her parents. You should see her airs towards the little Cinderella of the family: “Fetch me so-and-so. Now do so-and-so. What an untidy wardrobe! This room is dirty, etc., etc. And the mother will begin to scold and despise her younger daughter, the one who, after all, does all the work and keeps things going smoothly. Now the mother who ceases to love one of her children, or who shows favouritism, is more unjust and cruel than any stranger could ever be. To see such treatment once, or even merely to imagine it, is enough to make one resolve never to show any preference, unfairness or injustice.

The following rules of conduct will sufficiently show ways of avoiding these mistakes:—

1. *Never do anything yourself which may give rise to jealousy.* Let there be perfect fairness in the children’s clothing, food and pleasures. When one child receives some treat, let the others receive it too. Especially let there be the same show of love and affection to all the children. It happens sometimes that the year-old baby is nursed and fondled and petted to excess; the parents never speak to the child but in terms of “Darling, angel, my treasure,” etc., etc.; whereas the child of seven stands by, waiting for some sign, but remains unnoticed and forgotten. “Children,” as Mme. Guizot says, “are always ready to welcome any event, whatever it may be. Now the arrival of a little brother is a great event. The elder child will certainly receive him with delight if the parent is careful to give him something to do with the newcomer, and makes the new arrival add some fresh interest to his life rather than take any away from it.

A parent should frequently talk of his little brother to his child; the baby cries, both parent and child must be sorry for him; the baby sleeps, the parent calls the other child to look at him, to come quietly so as not to wake him. Thus the little stranger will arouse the elder child's curiosity and interest, for he will be told that he was once little, too, and the nobler feeling of pity will arise, for he will know himself strong in the presence of the weak."

You will find that the development of this instinct of protection will work wonders in your child. Thus you will say to him: "You must amuse baby, if you don't he will be cross. Look after him carefully, if not he will hurt himself." Is it likely that a child, treated like this, will ever be jealous, or will ever be inclined to resent attentions bestowed on his younger brother? *He* does not need all this care; he can walk and talk; he is grown up. He feels important just because he is trusted to look after someone; he is no longer a child. The other is not to be considered a rival, but someone weaker than himself and so needing his protection. *Thus out of evil cometh good.*

But jealousy may appear on the other side, namely, in the younger child. You cannot now appeal to the protective instinct because the jealous child is the weakling. In such a case it is still the stronger child who must find the remedy and help to cure the other. You must teach your child to try by every means in his power to win his little brother's love, never to take any advantage of his own superiority of age, strength or intellect, to be good and helpful—in short, almost to make excuses for his priority, for this is generally the cause of the younger one's jealousy. At the same time, you must redouble your care and affection: "Am I no longer your friend?" You must excite such a sentiment. There must be equality in esteem and approbation, saving always the particular esteem that is deserved by the one who makes great efforts to correct himself of some fault. You must never say, "I like your sister best; she is a better girl than you." When there comes an

opportunity for praise, say simply: "Good girl," without adding, "That is better than so-and-so." Never make invidious comparisons, especially in regard to good qualities. Perhaps your little boy appeared to you a prodigy at six months. What a difference with Julia! Julia was not so sweet-tempered. Julia did not laugh at that age, and so on. Remember remarks like these to make use of them in bringing up your children, but do not use them yourself.

Never try to make a child do anything through jealousy. Suppose a little child does not want to eat: "Come, make haste," you say, "your brother will eat it up if you don't"; and the younger child will eat it up rather than leave it for his brother. This is a stupid way which a great many mothers have of wrongly correcting their children. "He shall have a prize, but you shan't" is the kind of threat which some fathers are fond of making. One child wheedles favours from the company; another child comes up and absorbs all their attention. Then the first child is upset and angry, and everyone laughs at him. The new arrival is ostentatiously kissed, apparently in order that the other may be more and more upset. Thus people will heedlessly provoke and play with a passion which may later on ruin the child's life. To show such a lack of management is almost as bad as to show injustice.

Notices and News.

The Civic and Moral Education League is holding a Summer School of Civics at Aberystwyth, from August 5th to 19th. Full particulars can be had from the Secretary, 6, York Buildings, Adelphi, London, W. C.

New Ideals in Education.—The Committee of the Conference have arranged to hold their next Conference at Oxford, from July 29th to August 5th. For particulars apply to the Secretary, 24, Royal Avenue, Chelsea, London, S.W.

The National League for Physical Education and Improvement has arranged a course of lectures, by highly qualified lecturers, on "The Care of the School Child," to be held from May 3rd to July 19th. Information can be obtained from Miss Halford, 4, Tavistock Square, London, W.C.

Reviews.

Report of the Fourth Annual Conference of Education Societies, 1916. Pp. viii., 265. The Darien Press, Edinburgh. Price 1s. 6d.

This is an excellent report of the papers and discussions at the Conference held at the University of London in January last. It would be difficult to find a cheaper and better collection of up-to-date matter on many phases of education.

Report of the Conference on New Ideals in Education. Pp. iv., 200. Copies from Miss M. B. Syngé, 24, Royal Avenue, Chelsea, London, S.W., for 1/6 (post free).

This contains the papers read, and the Chairmen's speeches, at the conference at Stratford-on-Avon in August, 1915. While chiefly occupied with the Montessori Method the conference was not confined to this, but concerned itself with "the new spirit" in education, "the essentials" of which "are reverence for the pupil's individuality and a belief that individuality grows best in an atmosphere of freedom."

The papers are on: ideals in education, freedom and liberty, Montessori work, rural education, music, babies, and drawing. The paper by Mr. W. Taylor on "Steps in the development of a rural school" is a model of how to go straight to the point and then stick to it; while Dr. Percy Nunn makes some admirable criticisms on some of the ideas of those who had preceded him, which should lead to the re-reading of their remarks.

The report is well printed, and full of valuable and interesting suggestions by well-known and competent people. We heartily recommend it.

The Athenæum Subject Index to Periodicals, 1915.

Education, pp. 16. Price 1/- net. Theology and Philosophy, pp. 34. Price 1/6 net. The Athenæum, Bream's Buildings, Chancery Lane, London, E.C.

All students of education will warmly welcome these admirable indexes—two out of twelve subjects on similar lines. No less than one hundred and three periodicals are indexed under Education. The annotations showing the nature of the contents of articles are most helpful. There is to be an annual volume including all the lists, with not less than ten thousand entries, for £2 10s. 0d.

This publication, issued at the request of the Council of the Library Association, handsomely redeems us from the reproach of not having had such an index long since.

Research in Mental Deviation among Children. By Lewis M. Terman. Pp. 15. Stanford University, California, U.S.A.

This is a very interesting pamphlet giving "A statement of the aims and purposes of the Buckel Foundation" Research Laboratory, at the Stanford University. It sketches lines of research on (1) backward and feeble-minded, (2) delinquent or potentially delinquent, (3) nervous, morbid, or psychopathic, (4) exceptionally talented, and (5) normal, children. The Buckel Foundation was established in memory of Dr. C. Annette Buckel,

who bequeathed an estate worth between ten and fifteen thousand dollars, to be used for the benefit of mentally defective children.

Journal of the American Institute of Criminal Law and Criminology. Pp. 160. Bi-monthly. North Western University Press, Chicago, Ill. Price 60 cents a number, 3 dollars a year (3.50 foreign).

This should prove a very helpful magazine to all who are dealing directly or indirectly with actual or potential criminals. The contents of this number (Vol. vi., No. 5) are:—Editorials; the early development of English criminal law; the criminal—why he is, and what we do to him; insanity and criminal responsibility; fines and community protection; the paroling of prisoners; a classification of border-line mental cases amongst offenders; intelligence and delinquency; who is feeble-minded; model jail architecture; juvenile delinquency in small cities; propensity to crime; judicial decisions (court cases); notes and abstracts (from reports, etc.); reviews and criticisms; correspondence; bibliography of recent European literature.

The Mental Health of the School Child. By J. E. WALLACE WALLIN, Ph.D. Pp. 463. New Haven (U.S.A.), Yale University Press, 1914. London, Humphry Milford.

Dr. Wallace Wallin is Professor of Clinical Psychology and Director of the Psycho-Educational Clinic in the School of Education in the University of Pittsburgh. In this volume he has collected a number of papers and addresses written in the years 1909 to 1913 and revised and brought up to date, all of them dealing with some aspect of what he terms the psycho-educational clinic in relation to child welfare. In the preface he states that the various papers aim to show the aid which practical psychologists and expert educational consultants hope to render in the important work of diagnosing, identifying, studying and training feeble-minded, backward and mentally abnormal children in the schools.

From the nature of the case the book covers a very wide field in rather a disconnected manner, but if one were to fix upon the central idea it would be this:—"We have recently developed a new type of clinical work without the full recognition that it cannot successfully be done by either the physician or the psychologist without a definite technical preparation." The time prescribed as necessary for a student to be graduated from a university clinic as a thoroughly competent examiner is from two to four years. The work and affiliations to the departments in a university of the psycho-educational clinic are discussed in great detail, as also its various functions in regard to institutions and the State, such as the schools, juvenile courts and vocational bureaux. One cannot help being struck by the great impetus that has been attained by work of this kind in the United States, and the recognition it has already received in the universities, colleges, normal and medical schools.

Dr. Lightner Witmer, to whom the term "clinical psychology" is due, was the pioneer, and he opened a small psychological clinic in the University of Pennsylvania in 1896. The principal development of the movement has, however, taken place within the last three or four years. The claim which is made is that clinical psychology is an independent science dealing with a separate body of facts that is not adequately handled by any existing science, and that she handles these facts by methods of her own, the facts being those concerned with individual mental variation. It deals with the study of individual cases of deviate mentality; particularly with those types which are amenable to improvement or correction by psycho-educational processes. Such a science is distinct from both psychology, psychiatry and pedagogy, but is more closely allied to the latter than to either of the former.

This book appears to us to go far to make good such a claim. No one of the other sciences has hitherto adequately covered this ground, and without special development and extension it is not fitted to do so. The recognition of a new science, with all the consequences that flow from this, involves a duplication of personnel and increase of expenditure both in the centres of higher education and in the field of application of the work. The author contemplates a psycho-educational clinic over and above a medical clinic for every school system. Theoretically, no doubt, there is much to be said for this view, but however it may be in America, we are not prepared to meet such a demand here, particularly at a time when, owing to the War, other important reforms have had to be postponed. Moreover, the more precise and skilled diagnosis of the mental deviations of school children can only be of real value when it is practicable to make the special pedagogical provisions for individual cases in accordance with the results attained, and it seems doubtful whether, even in America, it will be possible to provide the special arrangements to which the psycho-educational clinic points, on at all a general scale.

One of the most useful objects of research to which the new science might devote itself is to ascertain more certainly the results that can be obtained by applying the most approved methods of dealing with various types of deviates. It is only so that a just opinion can be formed as to how far the development of the psycho-educational clinic can justify itself by superior results to those reached by less perfect methods. This our author takes too much for granted, whereas in general he brings evidence in support of his views.

One cannot help feeling that the whole trend of the work of the clinics owes much of its inspiration and substance to the ideas which Binet and Simon enunciated and reduced to practice. Dr. Wallin himself gives full appreciation to that work, and evidently makes regular use of their tests. Nevertheless, the chapters devoted to the

Binet methods are mainly critical not only of the tests themselves, but even more of the excessive claims that have been made for them by some enthusiastic followers, and include a very just protest against the idea that any amateur, by applying the tests of intelligence, can either arrive at a reliable result, or even so can form a good judgment on the whole mental make-up of the child tested. For the proper use of the tests a considerable training in that work alone is necessary, and the results must then be checked before being utilised by the expert in arriving on this and other grounds at a broad judgment on the case. He admits that the most satisfactory single measure of a child's mentality is undoubtedly the test of his intellectual development. This furnishes the best preliminary working basis for diagnosing mental age. But to fix a child's mental age fully we must also have especially graded tests of motor-industrial performances. To all this one can give ready assent.

Elsewhere he speaks of collecting data for constructing a motor or industrial scale, and says that from the results thus obtained it should be possible to construct such a motor scale. His work was unfortunately interrupted, but one cannot help feeling that though it may be easy to collect data it is extremely difficult to construct a scale. At present no such scale exists. He quarrels with some of the Binet workers because their definition of "feeble-minded" by the scale does not accord with his own conception, which he nowhere defines; but if Binet's line has been drawn at the wrong place in the scale of intelligence as shown by practical consequences, it can readily be altered; at any rate the scale method gives some definite meaning to the terms used, which is a great gain. Dr. Wallin himself makes four grades of sub-normals between the "moron" and the "normal," viz., doubtfuls, border cases, backward, retarded. He gives no indications by which any one else could use his classification, and it seems doubtful whether such great subdivision serves any useful purpose from the point of view of differentiation in practical school life.

It is pleasant to note that the author recognises that there is a class of deviates in the upward direction which has special claims for recognition and consideration, such as the precocious and specially talented children; but this promising and fruitful aspect of the matter does not apparently figure very prominently in the work of the clinic or the schools, if one may judge by the space given to it in this work.

The volume is a mine of valuable information on all matters connected with the subject at issue, and Dr. Wallin, besides being unusually equipped for such work by his doctorate in psychology and education, and his practical experience in institutions for epileptics, feeble-minded, and insane, as well as in medical clinics and in ordinary school teaching, brings to his task a fine enthusiasm tempered by good judgment and a broad outlook.

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Handwriting.

I.—METHODS AND TESTS.

By DR. C. W. KIMMINS.

The Acquisition of the Art. It appears that we are on the eve of a very great improvement in the teaching of handwriting. Whatever may be said for or against what is known as the Montessori System, there is general agreement that the exercises preparatory to handwriting, both tactual and purely motor, mark an advance of the greatest importance.

The learning of writing being without much intellectual content is usually a tedious task to an intelligent child, but under this method handwriting springs quite naturally from an interesting course of preliminary tactual and muscular training. No difficulty is experienced in using the writing instruments, and the act of writing becomes as interesting an occupation as reading.

In a small number of schools outside the County of London, where Montessori methods have been in continuous use for a considerable time, the results obtained in the direction of handwriting have been very striking. Children of six and seven years of age can write with great freedom, and short essays written by them on familiar topics, the subject matter of which presents no difficulty, are considerably beyond those obtained in ordinary schools in the quantity written, the firmness of the handwriting and the ease of expression. Speed tests given to children of six and seven years of age give results considerably in advance of the averages taken from five infants' departments in London schools. It should, however, be stated that at one school not conducted on Montessori lines but in which there was a lot

of preliminary handwork, the results were better than in any other school examined.

The preparatory exercises in the Montessori System are, moreover, of such a nature that very young children can perform them without the slightest risk of over-strain or of bringing into play the finer accessory muscles at too early a stage. In fact, from the point of view of the tactual portion of the training, the earlier it is undertaken the better. It is well known that with very young children the favourite, and for a long time the most valuable, method of obtaining information about external objects is through the sense of touch, and it is surprising that in the infant school in the past this valuable sense has been very little used for educational purposes.

It is agreed that the sooner a mechanical act like that of handwriting becomes automatic the better. Provided always that the preliminary operations can be made thoroughly interesting and physiologically harmless to the child, there can be no possible object in postponing them to an age when the time can be more usefully employed in exercises involving more intellectual content.

The Use of Lines.—The use of lines, and more especially the double lines between which the writing takes place, the letters being required to touch the upper and the lower lines, has been much discussed, and a movement has been gaining force lately in favour of the total abolition of lines at all stages.

The single line for purposes of orientation is a labour-saving appliance, and the devices used in essay-writing on unruled paper to secure accurate spacing and fairly straight lines are often clumsy and ineffective. Some children experience no diffi-

culty in spacing and orientating properly, but they are the exception, and probably on the whole it is better to keep the single lines until the difficulties of spacing and direction disappear naturally.

Whether in the very early stages of writing double lines may be used for very short periods to aid in obtaining letters of uniform size may be a matter of debate. In any case the use of double lines should not go beyond grade III. of the infant school. If children of standard age are blindfolded and write from dictation it is generally found that the shape and uniformity of size of the letters are well maintained without any visual guidance. The use of double lines, therefore, for normal writing cannot be defended. It is, in fact, harmful physiologically, as for young children the strain on the eyes and also on the finer accessory muscles of the fingers may produce serious results.

A powerful argument against the use of double lines at any stage is that it interferes seriously with the rhythmical motion in handwriting. An interesting experiment, recently performed by a distinguished expert in handwriting, demonstrated clearly, by means of a pressure curve of the result, that writing between lines produces a serious interference with the rhythmical nature of the writing, and that the interference persists for some time after the abolition of the double lines. Anything which substitutes for the subconscious automatic guidance of the muscles by their own nerve impulses a sustained tentative effort involving another sense organ must necessarily embarrass the speed and accuracy of production.

The Manuscript Type of Writing.—Attempts have been made from time to time to introduce what may be termed manuscript writing into the schools. The subject was fully discussed at the London County Council Teachers' Conference in 1913, and I would refer those interested in handwriting to the report of that conference. I would also suggest as very instructive and interesting literature on the subject Thorndike's "Monograph on

Handwriting" in the "Teachers' College Record" for March, 1910, and Miss Mary Thompson's little book on the "Psychology and Pedagogy of Handwriting," in which she gives an excellent account of the researches on this subject up to 1911. I would also draw special attention to a paper in the "Journal of Educational Psychology" for October, 1913, by Daniel Starch on the "Measurements of Handwriting." These books are all to be found in the Education Library at the Embankment.

The chief advantages to be obtained from the manuscript type of writing are: (1) That it practically removes the great disadvantage of two kinds of script with which the child has to contend in learning to read and to write. (2) It is particularly easy to acquire, involving only combinations of straight lines and circles, with the result that the serious obstacle to the child of the ascending loop is postponed until a later stage of technical skill is reached. (3) All children can acquire it. There are no failures as in the case of ordinary writing. (4) It is very legible and forms a good basis for a permanent style of writing.

Speed of Writing.—Thorndike and Daniel Starch, in their experiments on handwriting in America, found that great differences existed in the speed at which children wrote in different schools. In London elementary schools there is also the greatest possible variety. In one school good careful writing is the objective, the letters being well shaped and the form being all that can be desired, but no great speed is acquired by the close of the school course. Another equally good school places less stress on the perfect form of the letters, and, provided the writing is legible and reaches a fairly good standard of form, pays more attention to the volume written in a given time.

In three girls' schools of normal type in which fairly rapid writing has been acquired, the following results were obtained by tests given to all the children (1,064):—

7 years of age ...	21.6	letters per minute.
8 do. ...	24.2	do.
9 do. ...	34	do.
10 do. ...	47.6	do.
11 do. ...	59.7	do.
12 do. ...	64.5	do.
13 do. ...	70.5	do.

In two girls' schools in which no lines were used either in the infants' or senior departments the speed tests were somewhat disappointing. In the lower ages the results were distinctly below normal, and at the age of thirteen the average was only forty-five letters per minute. In the boys' departments in the same schools, working under the same conditions, the results at the lower ages were also below normal, but they picked up in the upper part of the schools, and at the age of thirteen reached an average speed of 62.1 letters per minute. From this it would appear that the absence of the base line militates against speed, especially in the lower part of the school.

In some schools in very poor districts the speed of writing appears to suffer. In one such school the average results in the girls were 12.4 at the age of seven, and 42 at the age of thirteen; and in the boys the speeds were, respectively, 9.4 and 44. In both departments the increase from age to age was surprisingly regular.

There is much greater uniformity in the speed of writing in boys' than in girls' schools. Thus in four of the six boys' schools tested for speed results the numbers of letters per minute at the age of thirteen were, respectively, 67.4, 64.2, 60 and 59.2 letters per minute. The other cases are quoted above. The total number of boys who did the tests was 1,920.

In testing for speed of children who have adopted the manuscript type of writing, it must be remembered that the results are based on very few children—one hundred and eighty-six in all—and that the children have only been using this method of writing for a comparatively short time, in no case exceeding three years. The numbers are only given up to twelve years of age, as the larger school is still using the old type of writing in the upper classes.

They are compared with the total girl results and the total boy results for the same ages :—

AGE.	MANUSCRIPT.	AVERAGE FOR	
		ALL GIRLS.	ALL BOYS.
7	21	18.8	13.9
8	23.6	21.4	17.4
9	31.8	29.3	25.1
10	30.5	36.1	32.9
11	37.7	44.5	44.7
12	41.4	49.3	46.6

It will be seen that as far as speed is concerned the children at the ages at which they have practically only used this type of writing, namely, seven, eight and nine years of age, are in advance of average boys and girls throughout the schools tested.

In carrying out the speed tests in the London schools I used the same material as that used in the American schools, viz., "Mary had a little lamb," but I tested the children for five minutes, whereas the American tests were for two minutes. As the children undoubtedly wrote less quickly at the end of the time than at the beginning, it is evident that a two minutes' test would have given somewhat higher results. The five minutes' test is much more satisfactory than one for a shorter period, and the results are far more reliable. The English child writes quite as quickly as the American child. The statistics would seem to indicate that this is not so, but this is largely due to the shorter period for testing and to the fact that the speed tests were given in America at the end of the school year. Thus grade II. results are those of children who were on the point of passing into grade III. The same applies to other grades.

The results of the tests are given in actual, not mental ages. It was found in classes with a wide range of age that the older children almost invariably wrote more quickly than the younger children in the same class. This is probably because practice counts for so much in speed writing. Age for age, however, the clever child writes more quickly than the dull child. This is a general experience.

In Thorndike's work on the "Quality

of Handwriting in Teachers and Children," he found that children of thirteen and fourteen years of age wrote much better than their teachers; and he found that with regard to legibility no improvement takes place after the age of eleven in the average child. This is confirmed by Starch's experiments. Thorndike goes so far as to say that when a child can write sixty letters a minute in a good, legible hand he had better take to typewriting, as any further excellence in handwriting will be lost after school life is over unless he becomes a clerk and thus keeps in continual practice. Thorndike concludes that there is no fundamental close correspondence of intellect with motor ability, and Kavanagh confirms this from his investigation of results obtained by candidates in Civil Service examinations.

The speed tests in London were made on 4,408 children: 2,488 girls and 1,920 boys.

I am carrying on a series of speed tests in different schools on a larger scale, and hope eventually to obtain sufficient material to establish norms for the different ages of school life.

II.—AN EXPERIMENT IN HANDWRITING.

By MRS. KATE L. GRAINGER.

The experiment concerns the development of a clear, individual handwriting from a printed alphabet, or perhaps it would be better to say, from an alphabet in which the letters are of the simplest character, only the really essential parts being retained. This alphabet only to be taught, the ordinary script letters being dispensed with entirely.

I should like to say, that the experiment is really the outcome of a talk with Mr. Cherrill, H.M.I., about handwriting in general, which I had in the autumn of 1913. In this talk, as far as I can now remember, the chief points discussed centred round:—

I.—The lack of quality and style; in fact, individuality in the writing of children just about to leave school, and perhaps more so in the case of children who have left school only comparatively a short time.

II.—The difficult muscular effort which the looped letters always presented to the younger children. This fact concerning the younger children's difficulty was particularly noticed, as we happened to be watching a young child make the ordinary script letter "f." Finally I remember this was said: "Might it not be possible to develop handwriting through printing, and not from the usual script?"

Upon thinking this conversation over, I, too, wondered if it might not be possible to develop a handwriting from a very much simpler alphabet than the ordinary script letters; from an alphabet which consisted only of the essential parts of the letters, and which would therefore be much more readily and easily written by the younger children, whose control over the finer muscles of the hand is not sufficiently developed to enable them to make the looped letters successfully and well.

I then decided to try and see how far it was possible to carry this idea into practice, and hence the beginning of the experiment.

The first thing to be determined upon was the alphabet to be taught. This was done by consulting a book and taking the essential parts only of each printed letter. A few letters presented difficulties, *e.g.* the letters a and g, and there are a few divergences from the usual printed letters in the alphabet which I finally selected. Since beginning the experiment a few slight modifications have been made in this original alphabet.

Before proceeding further, perhaps a brief description of the school would enable you to understand how the experiment was carried out. The school is a very small one, the average number on the roll being just under one hundred. It is organised in three classes, the lowest being Class III., a and b, which corresponds to Standards I. and II. It was in this class that the experiment was begun. Up to this time the children had been writing the ordinary script and between double lines. Paper having single lines was now substituted for that having double lines, my idea being that when the children were de-

prived of the top line they would be compelled, unwittingly, to combine the efforts of hand and eye in order to obtain even-sized letters.

The children were then taught the shapes and relative sizes of the small and capital letters; then the letters were grouped as words, but the letters were not joined. Care had to be taken also with regard to the spaces between the words.

At the end of the school year (March, 1914) the upper division of Class III. (Standard II.) had to pass forward and become the lower division of Class II. (Standard III.). Here a difficulty presented itself, as this Class II. would now comprise children writing the ordinary script and children writing from the alphabet which I had selected. The results obtained from the six months' work seemed sufficiently promising for me to continue the experiment, so I decided that all the children in the school then under twelve years of age who were writing the ordinary script should be drawn into the experiment. I considered that if a child had over two years to remain at school there was time to develop a good handwriting, even though such a violent change was made.

The girls above twelve years of age kept to the ordinary script writing. All these girls have now left the school, so at the present time all the girls in the school are writing the same style. These children under twelve passed through the same groundwork as Class III. They learned the letters and the spacing and grouping of the letters to form words. Naturally they learned this more quickly than Class III. In Class III. the children have simply to think of the shape of the letter, the grouping of the letters to form words, and the spaces between the words, but this does not continue indefinitely. In Class II. the children are encouraged to express their own individuality by joining the letters if they so wish. They are not taught how to join, nor are they forced to join at all, but the ideal is put before them that they must now try to develop a writing which must be pretty (if I may use the

word, and we certainly do to the children) legible, and as rapid as is possible consistent with the aforesaid qualities. The children are encouraged to think of ways of joining the letters, and their ways of joining are criticised usually under the headings of: (1) prettiness; (2) aid to rapidity and ease in writing.

I am now allowing my elder girls still more liberty, in permitting them to incorporate into their writing any letter which they have admired in handwriting which they have seen, provided that the said letter seems to fit naturally into the general character of the handwriting.

I had better say at once that the writing, in my opinion, is more easily taught and readily corrected by the teachers of the lower classes than the ordinary writing from script, owing to the absence of the looped letters and joinings; but this does not hold good when once the children are allowed to join the letters. Here individual guidance and criticism is absolutely necessary, and this, of course, means careful correction on the part of the teacher.

The question has been asked if any particular nib is used, and it was suggested to me recently that a specially broad nib would improve the writing. Personally speaking, I do not think this at all necessary. I have found that ordinary nibs do quite well; and, indeed, I think it much better that the writing should be done with the ordinary nibs, which will always be obtainable by the children when they leave school. Some of my elder girls now write with broader nibs, but this is because they have expressed a desire to use them, some girls having brought nibs from home for that purpose; hence I have no rigid rule but allow individuality full play. In the case of the younger children, it is different. Their efforts ought to be directed towards well-shaped letters, individuality being expressed later on.

The following is a matter of detail, but perhaps had better be mentioned. The time given to formal lessons in handwriting is: one and a half hours a week in the lowest class, corresponding to Standards

I. and II. ; half an hour a week in Standards III. and IV. ; and twenty minutes in the standards above IV. This is the time which is given exclusively to the teaching and criticising of writing, and is the same amount of time which was previously given to writing in set copy-books. In the dictation, composition, and other written exercises, any very poor writing would come in for individual criticism, but in these exercises it is naturally a secondary consideration.

It might be of interest also to those head teachers of infants' departments who might be thinking of taking some such kind of writing as this—but who have been wondering what effect it would have upon the writing of the senior departments—to know that we have a case at our school which throws some light upon this matter. The kind of writing of which I have been speaking is taken by the infants' and girls' departments in school, but the headmaster of the boys' department prefers to teach the ordinary script. I have asked him how it affects his writing, and he replied that when he gets the boys at about seven years old (the Standard I. is in the boys' department) they have, of course, to be taught the ordinary script letters, and this takes a little extra time, but by the end of Standard II. the boys write quite as well as if they had always been taught the script letters, with this added advantage that the writing is firmer and bolder and shows more decision. He also thinks that the time which was given to the teaching of the script letters is made up for later on, when the boys are taught printing ; so altogether he is in no way adverse to it being taken in the infants' department, though he himself does not wish to continue it.

Although the experiment is by no means complete, yet it has been carried on long enough for me to have come to certain conclusions, and some in its favour I have arrived at thus far are :—

(1) That in the lower classes the similarity between the type of the reading book and the letters written by the children is undoubtedly a great help, both in the reading and in the writing.

(2) That the younger children find the writing much easier, as the muscular effort is lessened owing to the absence of looped letters and joinings, and a more uniform standard is obtained.

(3) That again in the lower classes the mistakes are more quickly marked owing to the separation of the letters, and that the individual letters are a better shape. Both my assistant teachers have taught Class III. (Standards I. and II.) and they are both equally certain that the style is far easier to teach than the ordinary script, and that they have obtained better results from their teaching.

(4) That by reason of its clearness—and I think that will be admitted, even by those who do not otherwise like it—it is very suitable for exercises in arithmetic, for use with diagrams, for map drawing, and (in a boys' school) for geometry and drawing in general.

Here I feel I should like to say that there is something about this kind of writing which would, by reason of its very plainness and directness, appeal to boys. I would not venture thus to give an opinion, but I taught in a mixed school for several years, and during that time taught all the standards from II. to VII., so I think I may claim to know a little about boys.

It is wrong, I know, to generalise from a few examples—so I say this with all diffidence—but I have found that a bad writer of the ordinary script, is not so bad a writer, and shows decidedly more decision and firmness, when taught to write in this particular style and allowed to develop upon her own lines.

III.—THE INTRODUCTION OF A NEW METHOD IN HANDWRITING.

By MISS GOLDS.

The method of handwriting now under discussion is really not new at all ; it is very, very old, and dates back to the time when writing was considered an art, and when the work produced was something really beautiful to look at.

Towards the middle of 1914 we worked

out an alphabet and gave experimental lessons to the lowest class in the girls' school. The style proved more difficult than was at first anticipated, and it was found necessary to modify many of the letters. In working out the scheme the chief difficulty was in making the letters simple enough for the youngest children. While working out a less elaborate scheme our Government Inspector visited the school, and in the course of conversation asked if it had ever occurred to me to adopt this particular style of writing. On being told of our attempt, he produced some papers written by the children of Mrs. Grainger's school. On examination these papers were found to be written almost in the same style as that which we were again about to try. Mrs. Grainger kindly allowed two of my assistants to visit her school, where they saw this particular style of writing being done by all the girls. This proved a great help. Our scheme being completed, we threw over the old system and began in real earnest to teach the new early in November, 1914.

From the time we started, the new style was adopted all through the infants' school and up to and including Standard IV. in the girls' school. In the infants' school we have found the new method much easier to teach. This kind of writing seems to come almost natural to the little children. It was the loops and joins of the other style which bothered the little ones and spoilt their letters, even when they had learnt to make them properly. Then, too, some of the letters were most difficult for them.

In this style the foundations of both the capital and small letters are extremely simple, being only straight and slanting lines and simple curves, and being also very few in number. After learning these it is quite easy for the little ones to make letters. When the letters are mastered, the children begin to write words by simply standing the letters side by side. Thus the children can write at a much earlier age, and the writing becomes a great aid to their reading.

The youngest children in the infants'

school draw their letters in sand. I should like them to be able to make them in wax.

The other classes in the infants' school first make their letters very large on mill-boards or brown paper, and afterwards write with lead pencils on white paper, using only a single line. The foundations of the letters required are practised at the beginning of each lesson.

In the lower classes of the girls' school the capital and small letters are taught in groups and continually practised.

The best ruling for the youngest children is that found in the L.C.C. No. 9 Exercise Book. In the middle classes of the girls' school the names on maps formed a useful basis for introducing the method.

A short extract or verse was selected, and the children were told to write it, forming each letter separately as they would do if it were part of a name on a map. All written work was subsequently produced in the new style.

The teachers in the girls' school much prefer this style of writing to any other, and while not thinking it easier, feel that much better results can be obtained. Two of them have adopted the style themselves, and one says, "I have had over fifteen years' experience as a teacher, and never before have I been able to obtain such good results in so short a time."

In introducing the new system the common faults we found in the earlier stages were:—

1. Making the letters too narrow or too wide.
2. Irregular spacing of letters and words.

3. Careless spacing.

4. Sloping the letters backwards.

But the advantages are many, for:—

1. The progress in writing is much more rapid.

2. The children write well at a much earlier age.

3. The writing is more easily made uniform in height, as the majority of the letters are begun from the top, instead of having to be started from a slanting up-stroke.

4. It can be more easily read and therefore more easily corrected.

5. It cannot develop into scribble.

6. I am sure it is going to be an aid to spelling, for this reason—the children see the words as wholes and they reproduce them almost in the same form.

One objection raised to this style of writing by those who have not taught it is that children will never get speed with it. I cannot quite understand why so much stress is laid upon speed. Surely our first duty is to teach the children to write and not to get speed. May I quote from Mr. Johnston's paper on "Writing" in answer to this accusation? He says:—"Rapidity is a matter of practice and necessity, but to teach a child to write well should be our immediate aim. Good writing will develop into a rapid hand."

As a matter of fact we find that our children write just as quickly as they wrote in the old style. After the scheme had been working a year we gave a speed test, with the following results:—

Standard I. wrote 31 letters per minute.

„	II.	„	33	„	„	„
„	III.	„	39	„	„	„
„	IV.	„	38	„	„	„
„	V.	„	46	„	„	„

Another speed test was given six months after, with these results:—

Standard I.—33 as against 31.

„ II.—45 „ „ 33.

„ III.—56 „ „ 39.

The children in these standards had learnt the style almost from the beginning.

Standard IV.—42 as against 38.

„ V.—50 „ „ 46.

„ VI.—62.

No children in Standard VI. were writing in this style when the last test was taken.

In comparing speed tests there is one thing which I think ought to be borne in mind—that it is not fair to try to compare things of different qualities. Good writing ought not to be compared with scribble.

NOTES ON THE ILLUSTRATIONS.

Figures 1 and 2.—A comparison of the writing of two girls of eleven years of age

at the same school and at the same speed, viz., sixty-one letters per minute.

Figures 3, 4 and 5.—The actual speed tests of three girls of St. Luke's School of eleven, twelve and thirteen years of age respectively who attained the greatest speed for these ages.

Figure 6.—The scheme of writing at St. Luke's School.

Figures 7 and 8.—The scheme of writing at St. George the Martyr's School.

Figure 9.—The scheme of writing at Cromer Street School.

Figure 10.—How letters are obtained from simple forms.

Figure 11.—Starch's experiments. The three curves show the legibility, form, and speed of handwriting of American children for different ages.

Figure 12.—Two curves showing the results of speed tests by 4,408 London school children (2,488 girls and 1,920 boys).

Figure 13.—Essay written at full speed by a girl of eleven years of age at St. George the Martyr's School.

Figures 14 and 15.—Specimens of large and small writing (Prof. Selwyn Image).

Figure 16.—Illustration from Mr. Grailey Hewitt's monograph on handwriting.

The Child's Point of View on Fairy Tales.

By WILLIAM M. FORREST, M.A.

The question of the fairy tale is still an open one, and the following experiments were undertaken to study it from the child's point of view. The method followed throughout was to set the children at their ease, read them a fairy tale, and by seeming careless remarks set them talking. The child is a little egotist, and when he talks his conversation is always about what interests him; he does not, like grown-ups, hypocritically pretend to an interest in what pleases his listeners.

That I might the better watch the reaction of the children I took six from the class immediately beyond the infants' de-

[illegible]

FIG. 1.

Mary had a little lamb. Mary had a little
lamb. Mary had a little lamb. Mary had a
little lamb. Mary had a little lamb. Mary
had a little lamb. Mary had a little lamb.
Mary had a little lamb. Mary had a
little lamb. Mary had a little lamb. Mary
had a little lamb. Mary had

FIG. 3.

Mary had a little lamb Mary had a
little lamb. Mary had a little lamb. Mary
had a little lamb. Mary had a little
lamb. Mary had a little lamb. Mary had
a little lamb. Mary had a little lamb.
Mary had a little lamb Mary had
a little lamb. Mary had a little lamb
Mary had a little lamb. Mary had
a little lamb. Mary had a little
lamb. Mary had a little lamb. Mary
had a little lamb. Mary had a little

FIG. 2

Mary had a little lamb Mary had a
little lamb Mary had a little lamb. Mary
had a little lamb Mary had a little
lamb Mary had a little lamb Mary had
a little lamb Mary had a little lamb Mary
had a little lamb Mary had a little lamb.
Mary had a little lamb Mary had a little
lamb Mary had a little lamb. Mary had
a little lamb Mary had a

FIG. 4.

Age 13

Mary had a little lamb Mary had a little
lamb Mary had a little lamb Mary had a
little lamb Mary had a little lamb Mary
had a little lamb Mary had a little lamb
Mary had a little lamb Mary had a little
lamb Mary had a little lamb Mary had a
little lamb Mary had a little lamb Mary
had a little lamb Mary had a little lamb
Mary had a little lamb Mary had a little
lamb Mary had a little lamb Mary had
a little lamb Mary had a little lamb
Mary ho

FIG. 5.

St George the Martyr Girls' School
Holborn

Writing Scheme

Infants and Junior Classes
(below Standard IV)

A B C D E F G H I J K L
M N O P Q R S T U V W X
Y Z

a b c d e f g h i j k l m n
o p q r s t u v w x y z

FIG. 7.

A B C D E F G H
I J K L M N O P
Q R S T U V W X
Y Z

a b c d e f g h i j
k l m n o p q r s t
u v w x y z

FIG. 6.

Senior Classes

A B C D E F G H I J K L M
N O P Q R S T U U W X Y Z

a b c d e f g h i j k l m n o
p q r s t u u v w x y z

Pairs of letters which can be joined conveniently:-

ai	au	ar	an	am	ap	at	ah	aj	ab
ak	ay	aw	aw						
ai	ou	or	on	om	op	ot	oh	oj	ob
ok	oy	ow	ow						
ei	eu	er	en	em	ep	el	eh	ej	eb
ek	ey	ew	ew						

FIG. 8.

A B C D E F
a b c d e f
G H I J K L M
g h i j k l m
N O P Q R S
n o p q r s
T U V W X
t u v w x
Y y Z z

FIG. 9.

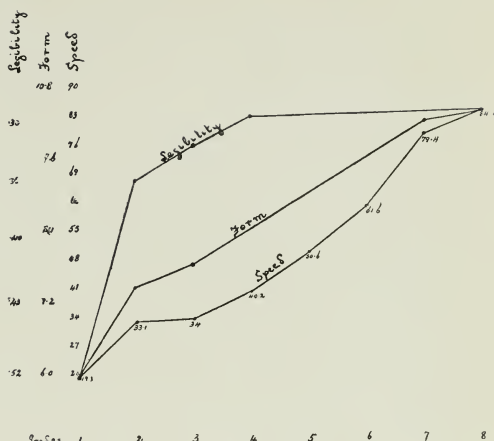


FIG. 11.

Small Letters

The 2 elements on which letter forms are built.

I O

The stroke forms 3 bases:

- (i) long strokes above line
- (ii) short " (½ length)
- (iii) long " dropped

(i) (ii) (iii)
I i i
(i) (ii) t

Adding a curve to tops of these same forms, gives

f r t

An intermediate length between (i) & (ii) gives

The "o" forms 3 letters

Parts of 2 circles

O in combination with the 3 stroke forms

1 placing O on LEFT of stroke

s o c e
(i) (ii) (iii)
d a q g
(i) (ii) (iii)
b p
(i) (ii) (iii)

2 " O - RIGHT " "

Hooked forms in combination with strokes

inverted

h n m
u

Purely stroke forms.

k v w y x z

FIG. 10.

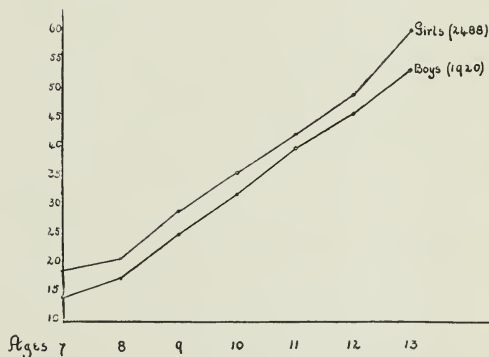


FIG. 12

Age 11yrs

The Air Raid on London, Sept 8th 1915

On Sept 8th it is was about half past ten and I was in bed. My parents had gone out to accompany some people who had come to see us. They were at the top of the street when 'Crash!', it was a bomb I woke up, but I was not afraid for I thought it was thunder and lightning. The noise of the bursting bombs was like thunder and the firing of the Zeppelin was like lightning.

Soon I heard the lady on the first floor saying very loudly, "Come in the cellar quickly, because I believe they are bombs."

By now my mother was coming up the stairs, she opened the door, and took me down in the cellar.

I think it is very wicked indeed to do such a low thing.

FIG. 13.

*The Rev. S. D. Headlam
Wavertree,
St. Margaret's - on - Thames.*

FIG. 14.

20 Fitzroy Street. W.

March 26, 1916.

My dear Dr. Kimmins -

When you ask me to write you a letter which you can photograph, I at once become so self-conscious, so nervous, and all the pens so obstinate, that I can scarce write at all! Here is my poor essay, at it, however - as you mustn't be denied. I take it that a single sheet is better for your purpose than more. That is why I am so scanty. I will write more at ease and at length on another sheet - not for exhibition! Believe me

very sincerely yours -

Selwyn Image

FIG. 15.

It is indeed a much more truly religious duty to acquire a habit of deliberate, legible, and lovely penmanship in the daily use of the pen, than to illuminate any quantity of texts.

FIG. 16.

partment, seated them comfortably round a fire in the teachers' room, and read the fairy tale. The following is a *résumé* of a typical story.

Sidushka, aged ten, lived alone with her father in Bohemia, her mother being dead. She kept house for him and was "the best little housewife in all Bohemia." Left alone during the day she was not afraid, for her father told her no harm would come to her if she did not touch the Water King's red lilies. The Water King was an evil spirit, who lured people into his crystal prisons by means of his lilies, which seemed to say, "Come, pluck me." One day when Sidushka was drying her linen a frog jumped on to one of her sheets. It refused to move until, in fun, she promised to dine with it. It kept her to her promise in the evening. Following the frog, she lifted a stone in the brook and descended a stairway of water to the frog's home. Then she had dinner with the frog. While the froggies were being put to bed Sidushka explored. Out of curiosity she lifted an inverted jar and released a dove, then another and another—spirits of the Water King's prisoners. The Water King appeared, but after an exciting chase she escaped up the stairway.

Two of the children followed the story with a mere modicum of interest, but there was no mistaking the expressions of the others. They exchanged smiles with each other and with the teacher when the little girl talked about making jam, washing, and darning. All looked serious when the evil spirit was mentioned. When the frog spoke there was no responsive light in the pupils' eyes—perhaps these particular children were *blasé*. When Sidushka was before the unknown, or in danger, several little hands were raised to the mouth, as in apprehension. The baby frogs did not interest, as I had anticipated they would.

By the vaguest of vague questions I got the children to talk. One girl got talking about the little housewife and went off to tell about a little tea-set she had at home, thus showing that it was real life or imita-

tions of it which take first place in her interest. One of the boys was emphatic: "For me, anyway, the most interesting part was where she was going to lift the jars." He knew something was going to happen, and was puzzling his head to think what it would be. Another boy, being asked if he had ever seen water-lilies, said he had. "But," said he, "I think I know what the red lily was meant for—a whirlpool; it goes round and round and gets deeper in the middle." Now what does this signify? Because we think they like it we give children fancies, illusions, and symbols, but this child of seven rejects these and puts a rational construction on them. The symbols may have misled the others, but sooner or later they will have to look around and get rid of their false notions.

Another boy got talking about frogs. "We used to chase them under stones in the burn in the summer; but they don't live in houses." Here he went off to tell about bringing them home and having good fun frightening his sisters. The fairy element was ignored throughout, yet these children were only seven.

With a similar number of children from the same class I repeated the story in the same setting. Here, again, the most interesting part was agreed to be the turning of the jars. Something was going to happen, and it is action which interests them. One girl liked the story because it was funny—the frog speaking and dining. Here the interest was the same as that of an adult, for, be it remembered, the incongruous is perhaps the greatest source of humour to grown-ups. For the most part the expressions and movements during the reading were similar to those of the first party. By effacing the teacher in me I succeeded in getting the children to talk. "That would be a funny house to live in." "Yes, the stairs would be washed away." "Then nobody could really live under the water." "Yes, divers can." At this point discussion of the story ended as the children vied with each other in telling what they had seen of divers. "They wear iron boots."

"There are holes to see through." "A tube comes up to a boat." "I saw divers making a new bridge at——" Another boy thrilled us by describing a submarine picture he had seen at St. Andrew's Hall. Thus the fairy tale was ignored, and for all my trying I could not get them back to it. Action and real life, with all its everlasting wonder and beauty, overrules fictions and fancies with these children.

With the next party, who averaged a little over eight, I could not get on such easy terms. Again the most interesting part was voted to be the lifting of the jars. "What do you think of the frog's house?" "I wonder the water does not get down to it." "My aunt has a mansion and a secret passage leading down to the Forth." They got back to real life. The little girl went on to tell us about the secret passage, but none of the others volunteered conversation. They had never seen frogs or water-lilies, and I concluded that their imaginations wanted stimulating with the wonders of nature, and not by stories of this kind passively received.

The next party, children of seven from the infants' room, enjoyed the story immensely. One little girl volunteered that she liked best the beginning, where the frog jumped on the sheet; it was so funny—the girl chasing it off. "That was a funny house, the frog's." "Frogs don't live in houses, they live in the mud." Remarks on the story:—"The girl would be too big to go down the wee stairs. The fish might have pulled her down—(apparently an attempt to explain the story and make it compatible with real life). She would sink in the mud. I don't think she would be drowned"—(knowing that it was a fairy tale).

In all the above, where the children talked, they ignored the fairy element and brought the tale back to real life and their own experience. Those dreamy pupils with little experience, the non-talkers, I take it, are being badly influenced if, as they seem to do, they accept the story passively. To assure myself that these results were general in the school, I read a different story to six pupils from the class be-

yond the infants' room, thus bringing the number of children up to thirty.

The story opens with the description of a little Basuto boy who had lost his father, but longed to have one like other little boys. His father was not dead, but had been carried off by the Evil Spirit of the Water. The boy goes in search of his father, getting instructions from a frog. He sticks a spear in the ground as a sign. "If it stands I am safe. If it falls I am lost." To help him to escape from a tiger, the frog turns a stone into a huge rock. He goes to the edge of the world and steps into the sea, at the bottom of which he finds such a world as the one he has just left. His father has been turned into a snake. He takes the snake home, and the priest exorcises the Evil Spirit by fire.

In this case the children who seemed most attentive would not talk. Those who did talk never mentioned the Evil Spirit. When I read, "The water rose and rose till it covered him, and——" a chorus came, "Then the spear fell." An adult forgets about the spear, but the children know something is going to happen, and are waiting expectantly for it.

The following are some of the remarks made by the children: "Funny thing, the stone growing." "There's a hill near the Lead Hills, where I go my holidays, made by men throwing up the earth they have dug out." "I wonder if there really is land under the sea?" "My uncle is a miner. He works three miles under the railway station. He goes down the pit and then walks away along." "Funny thing that years should seem like days under the water." "My mother told me that a little girl of five was drowned, and when they found her a month later she looked like fifteen." "When my father was coming from Africa a man was drowned. When he was found two years later he was swelled with the water." Here, again, the wonders of the natural world swamp everything else.

One little girl of seven liked real stories best. "And why do people write fairy tales?" "To please us," she said.

Eye-strain and Retardation in School Life.

By FREDERICK J. MANN.

From *School and Society* (U.S.A.),
Jan. 1st, 1916 (*By permission*).

A study of the schools of Cleveland showed that 27.6 per cent. of all the children were laggards and that every eighth child was a repeater. This study also showed that of the pupils,

50 per cent. withdrew before reaching the fifth grade.

75 per cent. withdrew before reaching the eighth grade.

95 per cent. withdrew before finishing the high school. (From U. S. Bureau of Education Bulletin, 1913, No. 39, "The Elementary Industrial School of Cleveland, Ohio," by Professor W. N. Hailman.)

During the school year 1909-10 the writer examined 660 children in the Poughkeepsie grade schools. Included among those examined were all those scholars who were repeating the same grade for a second year and many others with poor scholarship who had been so reported by their different teachers. This work is tabulated as follows:—

Children examined	660
Found defective	559
Laggards by 1 year	122
Laggards by 2 years	65
Laggards by 3 years	41
Laggards by 4 years	17
Laggards by 5 years	9
Total laggards	254

Among the defects found above were:

For eye troubles	320
For ear troubles	10
For tonsils or adenoids or both	240

This and a study of 34 truants shows, by the following table, that physical defects are a factor in retardation and truancy. I believe that truancy often is the result when the pupil is several years a laggard and where the cause is some physical defect and not the result of mental deficiency. Many children fail to

keep up with their age standing in the grades, partly at least, it would seem, because they have some physical defect that prevents their obtaining their full share of education from year to year.

34 Truants—Poughkeepsie, 1908-1909.

	Having Physical Defect.	Without Defect.
Normal age in grade	5	2
1 year dull	3	1
2 years dull.....	9	—
3 years dull.....	4	1
4 years dull.....	3	—
5 years dull.....	5	—
6 years dull.....	1	—
Totals	30	4

Defects found in Above.

Of eyes	15
Of eyes and throat	10
Of various conditions	5
Total	30

The next table is from Gulick and Ayer's book on Medical Inspection of Schools, second edition, page 158. It is founded on work in New York City in 1908, covering all grades, ages 10 to 14 inclusive, and the standard is "age in grade." This table shows the marked relationship of physical defects to school scholarship, with the exception of defective vision.

	Percentage having	Dull.	Normal.	Bright.
Enlarged glands	20	13	6	
Defective vision	25	25	29	
„ breathing ...	15	11	9	
„ teeth	42	40	34	
Enlarged tonsils	29	19	12	
Adenoids	15	10	6	

Not being satisfied with the figures given here for defective vision, I present a table of 191 consecutive cases of school children whom I have examined in my private practice and for whom I have furnished lenses. My table easily shows that the cases of myopia average bright. These children usually have good vision for book work, but fail when tested at twenty feet. These are the cases that cannot easily see the blackboard, and that the average teacher or school physician, not especially trained in eye work, quickly detect. I

believe that in Gulick and Ayer's table they found the myopia cases and failed to pick out many of the hyperopic or eye-strain cases. The following table as easily shows that the hyperopic cases are much

191 Eye Cases.

	Myopia (Near sighted).	Hyperopia (Far-sighted or Eye- strain).	Totals.
2 years bright	5	6	44
1 year bright	8	25	
Normal, age in grade	8	35	43
1 year dull	6	35	104
2 years dull	1	35	
3 years dull	—	14	
4 years dull	—	10	
5 years dull	—	3	
Totals	28	163	191

more common than the myopic and turn the balance for eye defects as a cause of retardation.

The next table shows the hyperopic cases by themselves, by ages and grades.

163 Cases of Hyperopia or Eye-strain.

Grades.														
Ages.	k	1	2	3	4	5	6	7	8	High School				
										1	2	3	4	
6.....	1	1	1	..	..	..	..	..	..					
7.....		8	6	1	..	..	..	..	..					
8.....		4	1	4	1	..	..	..	..					
9.....			2	..	3	5	1	..	..					
10.....			2	6	4	6	1	..	..					
11.....			2	4	7	11	2	1	2					
12.....			1	2	2	7	7	3	2					
13.....					2	5	7	4	4	1				
14.....					1	2	..	3	2	4	1			
15.....							1	1	1	1	..	1	..	
16.....							1	..	2	..	2	2	..	
17.....												1	1	
18.....									1	..	..	..	..	
19.....													1	
Totals	1	20	20	24	37	20	12	11	9	1	4	3	1	

The following re-arrangement of this table warrants a little study. It shows that eye-strain, as a factor of retardation, is not evident up to the age of nine years. Between the ages of ten to fourteen years

it becomes a tremendous factor and then apparently at the age of fourteen or fifteen these children drop out of school life.

The Same 163 Cases of Hyperopia or Eye-strain (Re-arranged).

Age.	6	7	8	9	10	11	12	13	14	15	16	17	18	19
Bright.....	2	7	5	6	1	3	2	1	1	1	2	—	—	—
Normal	1	8	1	3	6	2	3	4	4	—	2	1	—	—
Dull.....	—	—	4	2	12	24	19	18	8	4	3	1	1	1

The following scheme gives a comprehensive view of the variety of refractive errors that need lenses for their correction. In this chart, as elsewhere in this paper, for the sake of clearness I have ignored the effects of astigmatism. This is because, while any eye case may be complicated by astigmatism, it merely adds more strength of the lens, either plus or minus, in one meridian or axis, as against the corresponding right-angle axis. This does not affect the arguments I am presenting in this paper. To make the next chart and those following it clear it is necessary to remember that distance vision is usually tested at twenty feet, and this distance is recorded as the numerator of the fraction, while the number of the line of letters read on the test card is the denominator. Thus 20/20 means that line 20 is read at 20 feet and reduces to 1 or normal. 20/15 is better than normal, while 20/100 is one-fifth of normal. Lenses are measured by the French system, one diopter being the unit, and are either plus (convex) or minus (concave). A +1 spherical lens is the strength that a person at the age of 45 usually needs as extra help for reading, and A +3 lens is so required when the age of 60 is reached.

One word as to atropine, commonly known as "drops." The hyperopic eye has the power of over-action of the function of accommodation to make vision clear in many cases. This, however, is done at the expense of the person's health, for it brings that group of symptoms which I have discussed as eye-strain. The use of atropine is the only correct way to examine a child's eyes in order to determine the correct lenses as it overcomes for

the time being this over-action or spasm of the accommodation. Hence the "vision with atropine" shown in the charts to follow gives the real condition of the eye. pupils and two adults and present the "eye-strain" group of symptoms. The last eight cases are of children about the ages of ten to twelve also with eye-strain

Scheme of Refractive Conditions.

	Myopia.				Normal.	Hyperopia.			
Synonym	Near sighted					Far sighted			
Anatomical condition ..	Long eye					Short eye			
Lenses needed	Minus (concave)				None	Plus (convex)			
Lens strength	-3	-1.50	-1	-.50	0	+.75	+1	+1.75	+3
Vision	20/200	20/100	20/70	20/50	20/20	20/15	20/20	20/20	20/40
Vision with atropine ..	20/200	20/100	20/70	20/40	20/20	20/50	20/70	20/100	20/200
Distance vision.....	Poor —				Good	Good			
Near vision.....	Usually good				Good tillage of 45 when plus lenses are needed for reading	Poor			
Usual symptoms	Sedentary, indoor tendencies					Eye strain: Headaches, restless, nervous, inattentive, print blurs, letters run together.			
						Eye muscle unbalance			
						Often cross-eyed			

In conclusion I wish to show some illustrative cases, principally of school children, which make clear the actual symptoms and conditions that occur in this work. The first twelve cases comprise ten but who have come before the truancy courts instead of having received, earlier in life, a more rational, preventive and scientific treatment. Where two fractions for vision are given, as in case No. 9,

Twelve Eye-strain Cases.

No.	Vision.	Vision with Atropine.	Lenses Ordered.	Symptoms, etc.
1	20/15	20/50	+ .75	Eyes inflamed. Eyes tire with study. Letters blur. Glasses gave relief and improved school work.
2	20/15	20/70	+ .75	Age 12. 2B. Very nervous. Headaches. Eyes hurt after study.
3	20/20	20/50	+1.	Headaches. Eyes tire with study. Glasses allow comfortable use of eyes without headaches.
4	20/15	20/70	+1.	Restless. Nervous. Jerky motions. Quiet and no school for one year had been ordered. After one month's use of glasses went back to school well.
5	?	20/70	+1.25	Out of school most of past year for treatment for granulated lids, without complete eye examination.
6	20/30	20/100	+1.50	Age 8. First grade. Fourth year of school. Shows what vision of 20/30 may indicate.
7	20/40	Adult	+1.75	Indigestion. Nervous. Heart palpitation—"Nervous prostration." Glasses relieved symptoms, with glasses gained 23 lbs. in 5 months.
8	20/20	20/100	+1.75	Cross-eyed. Four years later; still wearing glasses. Eyes straight and comfortable.
9	20/20 20/40	Adult	+1.75	School life troublesome. Sleepy in school. Excelled out doors. Eye trouble not suspected as a child.
10	20/200 20/20	20/200	+2.50	Cross-eyed.
11	20/40	20/200	+3.	Age 13. Fourth grade. Six years in first, second and third grades. Headaches. Poor close vision.
12	20/40	10/200 20/200	+8.50	Cross-eyed. Dislikes reading and study. With glasses school work much improved and eyes straight.

the first is for the right eye and the second for the left. A single fraction means the same vision in both eyes.

I believe that the expedient and most successful treatment of these cases is not always glasses. Of course, if these pupils are preparing for college and professions, proper correction of eye defects is impera-

school at Cleveland, where the school life is arranged to consider the needs of hand-minded or practical-minded children, and gives such children a rational amount of practical, industrial work. I believe that when Cleveland picked out the children "not less than two years behind grade," the "dullards and incorrigibles," they

Eight Truants.

No.	Vision.	Vision with Atropine.	Lenses Needed.	Symptoms, etc.
1	20/15	—	+ .75	Age 12. Fourth grade. Three years Laggard Truant. Sent to State Industrial School at Industry.
2	20 40 20/20	20/50 20 30	+ .75	Age 13. Had glasses without atropine which were not satisfactory. Inattentive. Eyes hurt. Poor reader. Print blurs. Headaches. Runs away from home.
3	20/20	20/70	+1.	Age 12. Sixth grade. Constant slight headaches. Poor close vision. Reading hurts. Eyes inflamed. Frequent truant. Threatened with Reformatory. Glasses helped.
4	20 40	20/100	+1.25	First grade. Age 10. On probation. Very large tonsils. Age 14. No attention to eyes or tonsils and stops school at about third grade.
5	20 40	20/50	+1.25	Age 12½. First grade. On probation. Large tonsils. <i>Cross-eyed</i> . Does not know his letters. Poor home conditions.
6	20/20	20/200	+1.75	Age 11. Third grade. Two years laggard. Boy says reading keeps him back in classes. Mother says he does not like school and does not try. Boy says eyes hurt. Glasses helped. Glasses lost. Truant. "Industry."
7	20/15	12/200	+2.	Referred by City Judge. Three years in fifth grade. Does not like reading. Says head swims around after reading for 15 minutes. Has always had headaches.
8	20/40	20/200	+3.	<i>Cross-eyed tendency</i> . Headaches. Poor school work. Has tuberculosis.

tive. But many children must drop out of school as soon after the age of fourteen as the law allows to go to work, and among such children, when eye-strain symptoms exist, it is often very hard to persuade the child to wear the glasses or the parent to provide them. The alternate is just what is being done in the elementary industrial

were picking out many eye-strain cases.

Dr. Wirt at Gary, in his flexible school system, seems to be giving the same eye-strain cases that rational amount of non-book work that keeps them in school and interested, even if they are not able to secure and willing to wear spectacles.

Suggestions for Study and Practice.

The Treatment of Crime. "Under this method [etiological classification] persons convicted of crime would always be examined to see why they had transgressed before any sentence or other 'remedial measure' would be given. In other words, a diagnosis would be made. The use of this method would necessitate a new classification, as it has in medicine.

This classification would also drop such terms as thief, vagrant, murderer, and in their place use alcoholic, insane, feeble-minded, and others yet to be evolved. Then the intelligent victim of bad environment could probably be cured and the stupid habitual offender be given permanent custodial care. Classification of individuals must replace the old one of crime. Finally, the whole morale of the prison would change, and just as insane

patients are now going to hospitals voluntarily to seek treatment, so those with anti-social tendencies would be grateful for examination and advice. Indeed, the writer has frequently seen this very thing occur at the Psychopathic Hospital in Boston."—A. Warren Stearns, M.D., on "The Prison of the Future," quoted in *The Training School Bulletin* (U.S.A.), November, 1915.

Talented Children. "The large majority of these were found located in the school below the grade warranted by their intellectual level. The dull children are allowed to become retarded, but the exceptionally bright are rarely given the advantage which is due to their superior intelligence. ...Even genius languishes when kept over long at tasks that are too easy. Our data show that teachers sometimes fail entirely to recognise exceptional superiority in a pupil, and the exact degree of such superiority is nearly always estimated incorrectly. Clinical psychology and experimental pedagogy will nowhere find more fruitful application than in this field... Whether civilisation moves on and up depends most on the advances made by creative thinkers and leaders in science, politics, art, morality, and religion. Moderate ability can follow, or imitate, but genius must show the way. Society, therefore, loses tremendously when the child of exceptionally superior endowments fails to realise his highest potentialities."—Lewis M. Terman, in his pamphlet on *Research in Mental Deviation among Children*.

The Teaching of Science. "Science may be a way to seeing the wonder and glory of the universe, or it may be a way to making money, or it may be merely 'stinks.' We want it to be the first of these and not the second or the third; but we want everything else that is taught to be the first of these also. When science is taught or learnt merely as 'stinks,' it has no more virtue than the gender rules in the Latin grammar. Method and spirit are just as important in it as in anything else; its facts become significant and even useful only when they are used to illuminate a right view of the purpose of the life of man.

"That right view is wisdom, a wisdom which may be enriched and confirmed by knowledge; but the wisdom must be taught besides the knowledge and through the knowledge. Without it all knowledge is merely 'stinks,' and deserves to be called by that name. Yet it is certain that wisdom can only be taught through living knowledge and not through dead; and science has this great advantage—that it is the most living knowledge of our time."—From an article on "Wisdom and Knowledge," in *The Times Educational Supplement*, March, 1916.

Obedience as a Vice. "The value of obedience has been greatly over-estimated; it is frequently a vice, and as such a shallow excuse for want of moral thoughtfulness in the individual. The obedience doctrine shirks the whole question of whether or why we should reverence self-constituted authorities. Let us admit that obedience may afford some training in inhibition. It may quite disastrously inhibit the free pursuit of youthful ideals, and render a boy less capable of idealism in the future.

"The perfectly-obedient boy is pathological, doing what he is told at the beck and call of his youngest schoolfellow, an extreme case of suggestibility. We want the kind of boy who can be trusted to do what he ought without waiting to be told. Said an employer: 'That man is not a bit of good: he just does everything he is told. He will never get on.'

"It is quite true that obedience in young people is a convenience to adults who tend to become parasitic on the rising generation. We should be wiser to rely less on their known responsiveness to suggestion, and more on training them to independent moral thoughtfulness."—Hugh Richardson, M.A., on "Character: its analysis and measurement in C.G.S. units," *The Journal of Experimental Pedagogy*, December, 1915.

Notices and News.

The Articles on Handwriting in this number have been specially published in order to enable teachers, many of whom have written to say that

they are anxious to conduct similar experiments, to have material for guidance and comparison. The Journal Committee have authorised special expenditure for the illustrations, so that they might be reproduced in the best possible form, and thus prove most helpful.

The meeting of the London Society at which the papers were read was unusually well attended—some had to be turned away because of lack of room—and successful; so much so that it is hoped to have a further meeting on the same subject in October next.

Extra copies of this number are being printed, and should these prove insufficient still more copies may be provided, if there be such a demand as will justify the extra cost. Those who are unable to secure copies of the first issue should send a postcard to Mr. H. R. Crisp, 45, Corringham Rd., Golders Green, London, N.W., stating how many copies they wish to have.

The Uplands Association Summer School will be held at the Normal College, Bangor, N. Wales, from August 4th to the 21st, this year. Full particulars can be obtained from Miss A. F. Purvis, Lucerne, Knockdene Park, Belfast, Ireland. Parents, with their children, as well as teachers, are invited to attend.

A Summer School of Civics will be held at Aberystwyth from August 5th to the 19th. Details may be had from The Secretary, The Civic and Moral Education League, 6, York Buildings, Adelphi, London, W.C.

Reviews.

A Ferst Reeder in Simplifyd Speling. Pp. 48.

The Simplifyd Speling Sosyety, 44, Great Russell Street, London, W.C. Price 6d. net.

Apart altogether from the merits, and demerits, of the Simplifyd Speling, we are unable to commend this little book except for its printing. It is based on the old mechanical principle of a, e, i, o, u, ab, eb, ib, ob, ub, etc., synthesis of sounds and syllables; and there are no illustrations. The prose is marked off into reading phrases by vertical bars, but not so the poetry. It is amazing that such a first reading book should be issued now-a-days.

Practical Hints to Would-be Nurses. By FELICIE NORTON. Pp. 35. Scientific Press, Ltd. Price 6d.

Few books contain so much good advice in so small a space as the one before us. Beginning with how best to prepare at home after leaving school for the coming hospital training, the authoress discusses choice of hospital, questions of clothing and equipment and books, and makes excellent suggestions on the care of the feet. Hospital etiquette, the repulsive side of hospital work, and its responsibilities are unflinchingly set forth, and then follow some excellent hints as to conduct during the early days in the wards and the great importance of cultivating hobbies, music and other recreations when "off" duty.

No would-be nurse is likely to peruse this unpretentious volume in vain.

School Children: Their Care and Nursing. By ISABEL MACDONALD. Pp. vii., 115. Scientific Press, Ltd. Price 1/-.

This is a tabloid encyclopædia dealing with many aspects of the hygiene of school children, their infectious diseases, and with first aid, within the compass of 115 small pages. The instruction given is mostly very good as far as it goes, and should be of great assistance to beginners in school nursing, but much must be taken on faith for lack of room for detailed explanations. Thus eggs are mentioned as a cheap and good substitute for meat.

Under respiration, information as to "tidal" air, etc., is given to the exclusion of a note on the floor space for children. In the treatment for running ears one looked in vain for our old friend "the wool mop." The directions for the recognition of infectious diseases are very good, but the chapter on first aid, devoid of any illustrations, is too sketchy to be of much real service and might well be omitted in a future edition to make room for other matters.

Campaign for Clean Milk. Pp. 51. The Saint Catherine Press, Stamford Street, S.E. Price 1s. net.

The aim of this pamphlet is to educate the public as to the importance of a clean and wholesome milk supply. It deals with the different sources of contamination of milk, bovine tuberculosis and its eradication, the conditions of dairy farms and how to improve them, the licensing of milk dealers, certified milk, Pasteurisation, the value of milk as a food, and the National Society's proposals. The pamphlet is valuable from the point of view that it brings before the public the neglect that is far too prevalent of even the most obvious precautions against milk being the means of carrying disease and dirt into the home, and the appropriate remedies. The book is illustrated by photographs.

Annual Report of the School Medical Officer. Staffordshire County Council. Pp. 23.

This interesting report shows that, in consequence of the shortness of staff, etc., due to the War, the number of children who have been discovered to be in need of medical treatment has fallen from six to one per cent. of the school population. Dr. George Reid writes: "It was an attenuated form of medical inspection but not without value."

PUBLICATIONS RECEIVED.—*The Journal of Experimental Pedagogy*; *Journal of Education*; *Educational Times*; *Child-Life*; *The Parents' Review*; *The Pedagogical Seminary* (U.S.A.); *The Journal of Educational Psychology* (U.S.A.); *Educational Review* (U.S.A.); *School and Society* (U.S.A.); *Child-Life* (U.S.A.); *The Training School Bulletin* (U.S.A.); *Shkola* (Petrograd); *Estudios Pedagógicos* (Spain); *El Monitor de la Educación Común* (Buenos Aires).

Child-Study.

The Journal of the Child-Study Association.

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A New Test for Fatigue. III.

By JAMES DREVER, M.A., B.SC., D.PHIL.

It is not quite true to say that, if we can find a test for fatigue, which indicates loss of mental control, which always measures the same process, which is interfered with by the exercise of other functions, and which involves only one variable, we have the ideal test for mental fatigue. We require also a test sufficiently delicate to indicate relatively slight fatigue effects. As we have already seen, under normal conditions of working, the loss of efficiency is comparatively small even when what must be regarded as a danger point in mental exertion is passed. Most of the tests for fatigue hitherto suggested, more especially tests which measure efficiency by the output of work, however reliable they may be as indicators of real, and possibly dangerous fatigue, are not nearly delicate enough to indicate the degree of fatigue with which we have usually to deal, at any rate in the school-room. It is just here that the crucial question arises as regards the practical usefulness of any proposed test for fatigue, and it is in this connection that the results Ash has obtained with his test are most interesting.

What, then, is the nature of this "reversible perspective" test employed by Ash? It is well known that outline drawings of solids, which do not show perspective of any kind, are capable of being perceived in two ways, the mind, as it were, imposing upon them two different perspectives. Shroeder's "stair figure," Scripture's "blocks," are two familiar examples of such figures. The cube shown in fig. 1 is another and simpler example. The cube can be seen, either

with the red (dotted in our figure) end, or with the black end, towards the observer. It is impossible for an observer, who has seen the two aspects, to maintain either for any considerable length of time. In a few seconds the figure invariably "reverses" in spite of the observer's will to prevent "reversal." All that the observer can do is to give a preference to one aspect, so that it will tend to endure longer than the other. But, although the observer cannot prevent spontaneous re-

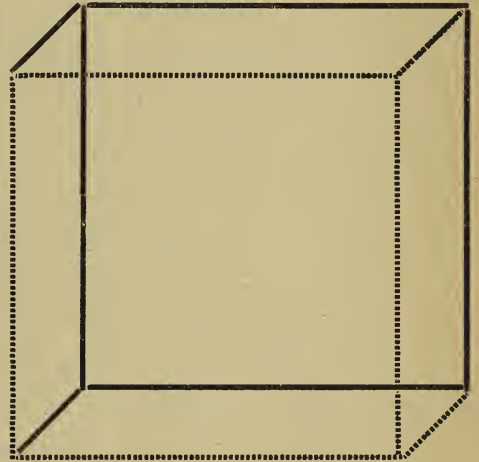


FIG. 1.

versal, he can control the rate of reversal when he tries, not to prevent, but to produce reversal. This is the basis of Ash's test. He maintains that the rate of reversal—that is, voluntary reversal—is reduced as a result of any mental exertion. In other words, fatigue will be indicated by reduction of the rate of voluntary reversal.

One very interesting theoretical ques-

tion is raised by the contentions which Ash brings forward. Upon what does the reversal of perspective depend? Some psychologists, including a psychologist of the reputation of Wundt, have maintained that reversal depends upon eye movements. That is certainly the first impression we get. Such a view could no doubt be experimentally tested, but we do not know that this has been done. Ash holds that the reversal does not depend upon eye movements, an opinion which has been generally accepted in more recent times. According to Ash, we impose upon the sensory data a mental image, as a subjective factor, the result being perception of the figure in accordance with the image. This is, after all, a more or less theoretical question, and its solution one way or the other would not affect the practical value of the test in the slightest degree. The practical value will necessarily depend upon the accuracy and reliability of the results we obtain from its use. Nevertheless, assuming that we do get accurate and reliable results, these can be more easily explained on the view that the reversal depends upon psychical factors, or, more particularly, as Ash contends, upon the degree of mental control, than they could on the view that the reversal depends upon physical factors like eye movements.

In the course of his experiments with "reversible perspective" figures Ash found—and our experience confirms his conclusions—that the reversal of complex figures like Scripture's "blocks" could be controlled less easily than the reversal of simple figures like the cube and the pyramid. Most of our experiments have been carried out with the cube. To begin with, we employed Ash's fig. 10, that is, a cube as in our fig. 1, but with blue for our red, and red for our black, and with the lines AAAA double the length of these lines in fig. 1. We have, however, found that red and green are better colours to use, that the red should take the place of Ash's blue, and that the lengths of the sides should be rather as shown in fig. 1. Ash's blue tends to be too persistent, and

regularity of reversal becomes almost unattainable under such conditions.

Our experiments with Ash's test were intended first of all to verify his results, and secondly to extend his investigation. He found that an hour's work at simple mental addition was sufficient to produce a marked increase in the time required for reversal, that this result was obtained with great regularity, and that the increase in reversal time was the greater the longer the period of mental work. That is to say, he found that the reversal time of any individual subject could be taken, not only as indicating the presence of fatigue or its absence, but as, in a sense, measuring the degree of the fatigue. Our first series of experiments was intended to verify these results. It is evident that, if Ash's claims are substantiated, we have in his test by far the most delicate and reliable test of fatigue hitherto available.

We adhered to the type of mental work performed by Ash's subjects, that is, the mental addition of nine, eight, seven, and six, in succession, to numbers of two digits, called out by the experimenter every thirty seconds. In our first series of experiments such mental additions were carried on for half an hour, a record of the reversal time being taken before and after the work. In subsequent experiments of this kind the work was carried on for three-quarters of an hour, and in one case for an hour, and records of reversal time were taken at the end of each quarter. The subjects in all cases were training college or university students, some of them graduates, and all had a period of practice, of varying length in the individual cases, before beginning the experiment. The record was taken on a smoked drum, the subject recording reversals on the drum by means of a Morse tapping key connected up with a marker magnet. Another marker magnet gave a time record in seconds. The period of the record did not usually extend over more than thirty seconds. The results we obtained are shown in Table I. (This part of our investigation was mainly carried

out by, or under the superintendence of, Miss G. E. Bairstow, M.A., Demonstrator in the Laboratory.) These results are notable in two ways. In the first place, they support Ash's claim that the test can be relied upon to indicate the first effects of mental exertion, even before we could say that there was any real fatigue present. In the second place, they seem to indicate that the test is even more delicate than Ash claims, since in most cases they show a difference in rate of reversal after only fifteen minutes of mental work.

TABLE I.

A.—Half-hour's work.

Subject.	Before work.	At end of work.
E.J.C.	1.06	1.43
J.T.	1	1.06
J.L.	.89	1
E.H.L.	.92	1.6
E.H.L.	.6	1.06
D.J.	2.22	3.12
J.H.	.88	1.15
M.B.	.61	1.2
M.T.	1.25	2.5
M.G.	1	2.5
I.E.C.	.77	.83

B.—Work extending for three-quarters of an hour with records every quarter.

Subject.	Before.	First Quarter.	Second Quarter.	Third Quarter.
E.J.C. ...	.7	.87	1.05	1.13
E.J.C. ...	.71	.67	.92	1
J.T.	1	1.2	1.4	1.5
J.L.	.63	.73	.82	.83
M.McG. ...	.83	.9	1	1.2

C.—One hour's work with records every quarter.

Subject.	Before.	First Quarter.	Second Quarter.	Third Quarter.	Fourth Quarter.
J.T. ...	.9	.9	1.4	1.5	1.9

In all cases the numbers indicate the mean time in seconds for one reversal.

This table does not seem to require further explanation. As we have said, it entirely confirms Ash's conclusions, and further shows that the test is a very delicate one. It will be observed that there are considerable individual differences in rate of reversal. It will also be observed that, even for the same subject, the rate

of reversal is not constant. Some of the subjects gave several sittings, and, although they were all practised in the test to begin with, before any record was taken at all, yet they distinctly showed improvement at each successive sitting. This fact partly accounts for the variation in their initial rate of reversal, but, even apart from this, it is to be expected that initial rates will vary, and perhaps considerably, with the state of the subject at the time.

(To be continued.)

The Conflicts in the Unconscious of the Child. I.

By DR. EDER and MRS. EDER.

In the physical and intellectual spheres we have recognised, tardily it is true, and still too often only in theory, how great a distance the child must traverse—no less than from primitive man to the climax of our present civilisation—in the first few years of life. We have admitted the incalculable importance of slow-going, lest we injure irremediably the delicate body and mind; and we have agreed not to demand adult precision and control from the awkward, experimental, developing, child-body or mind. But in the emotional and ethical aspects the adult criterion still reigns. The babe has no easy path to grow into the civilisation of its time; it brings indeed much with it from more primitive times, but with the potentiality innate not only of reaching the current standard of civilisation, but of pushing it on a stage further. The child is thus not born at the zenith of its own civilisation: rather it belongs to "the lower culture," the twilight of myth and fable.

From this babe, thus always in a condition of unstable equilibrium, and therefore exquisitely sensitive to injury, like all embryonic tissue, we demand a rigid standard of behaviour and feeling applicable enough to the relatively stable adult. There is admittedly something amiss with an adult pre-occupied with its own diges-

tive or excretory processes, but this judgment is not to be brought against a little child between four and five, who loved to perform her natural function in the garden, speaking of it as "a precious little heap." She was living in an earlier age of civilisation, not unsuitable to her own development. As every unbowdlerised fairy-tale would show, she attributed potency and magic influence to this wonderful thing she had apparently created out of her own body.

The adult standard conveyed even in the gentlest form, as "That's not very nice—only the doggy does it out of doors," in no way serves to allay the child's interest and gratification. Such admonition will but dam up the stream of emotion and imagination, and thus begin a process of psychical disintegration.

We shall later on indicate how this and similar primitive evaluations are to be dealt with in such a way as to interfere as little as possible with the child's arriving at its finest adult development.

Again, we rightly censure the narcissistic egoism of an adult, but so much tenderness is necessarily lavished on the child in those first months and years, so much unavoidable attention, that he is prone to dawdle in this warm and snug valley rather than make the next step forward and travel the upland road. The close and prolonged intimacy of the attachment to the mother, his fastness within the family circle, present a difficult adaptation, yet one imposed by the necessity man is under of growth into sympathy and understanding. The early experiences contribute to produce within his breast the illusion of his own supreme importance, his all-powerfulness, his delightfulness.

"There had been a time when two people had thought Mr. Polly the most wonderful and adorable thing in the world, had kissed his toenails and marvelled at the exquisite softness and delicacy of his hair, had called to one another to remark the peculiar distinction with which he bubbled, had disputed whether the sound he had made was just 'Da, da,' or truly and intentionally 'Dadda,' had washed

him in the utmost detail, and wrapped him up in in soft, warm blankets, and smothered him with kisses. A regal time that was, and four and thirty years ago; and a merciful forgetfulness barred Mr. Polly from ever bringing its careless luxury, its autocratic demands and instant obediences into contrast with his present condition of life. These two people had worshipped him from the crown of his head to the soles of his exquisite feet." ("Mr. Polly," by H. G. Wells.)

It is this self-centred creature, urged by an inner and an outer compulsion, that must, as least by school-age, grow into a large measure of self-dependence, self-control; must relinquish his right to exclusive mother-care, relinquish absorption in his own charming body; must learn to check his phantasies by realities, and learn to plant himself as a separate, new individual.

The child, the ordinary, normal child, so apt for civilisation, is anxious to conform to the external demand. Thus there grows up very early a differentiation between what he will talk of, play at with his fellows, and what he will produce for his parents, nurses, teachers. As to what attitude should be adopted, we at present know too little to permit the laying down of definite rules, but the great danger seems to us to lie in going too quickly, in imposing an external compulsion that is too far removed from the standard of civilisation which the child has reached within himself.

Even in normal children there can very early be seen signs of repression (that process by which desires unwelcome to consciousness, either from social reasons or from immaturity, have either never been permitted to emerge from, or are thrust back into, the unconscious), that is, if an attempt at sublimation (by this term is understood man's capacity for changing primitive, egocentric desires into cognate desires subserving cultural ends), which has not succeeded, when the real desire, corresponding to the stage of the child's own growth, is thrust below the level of consciousness, but remains dynamic and

succeeds in getting some fraction of its fulfilment in the symptoms known to every parent and educator. It is not from sheer "contrariness" or "nastiness" that children develop "bad habits," that they bite nails, pick noses, fidget, stammer, or later are too shy or too boisterously self-assertive, or develop this or that morbid fear. Such symptoms may be the replacement of normal curiosities and interests which have been denied their satisfaction, or may be due to a too early checking of a preoccupation with "messy" things, e.g., playing with water, making "mud-pies," using hands instead of tools, etc. That is, the child has been forced into a sublimation for which he is not yet ready. The particular symptom may disappear as he finds other satisfactions, but the original thwarted desire persists, is dynamic, and may at any critical moment become the cause of a failure in adaptation.

The investigation of the unconscious, especially the child's unconscious, is a hard matter, involving much technical skill. The unconscious has its own laws, does not make use of logical, rational modes of thought, and deals largely in symbols and analogies and superficial and partial identifications. It is therefore useless to take the material of play, day-dreams, fantasies, dreams, at their face value. The mechanisms of the unconscious must first be studied; we must, for example, painstakingly find out what desires and fears are represented by the symbol of a horse to the particular child with whom we are dealing. We are not to jump to conclusions or to think that we shall read the child's riddle until we have applied ourselves to a mastery of the technique.

The childish mind moves and works as did the mind of primitive man, and the child spontaneously lives again the fairy-tales of its race, using the symbolisms of those tales: using "king" and "queen" for father and mother when these are loved; using "step-mother" for the mother when disliked and wanted away; "wicked giant" for the father when his authority seems oppressive; and using the universal old story of the mother eat-

ing a carrot, orange or what not when a baby is desired, to explain to itself the mystery of birth.

In its games the child is equally symbolic. As we have said, he does not play with water or make mud-pies because original sin makes him long to be messy; on the contrary, he is performing an operation of extreme importance for future development. He is taking the first step in the great process of sublimation, in transferring to the nearest portion of the external world his first delight in the discovery of his own body and his desire to use his bodily excretions—the constructive material nearest at hand—to fulfil the fundamental human instinct of creation. Clearly we have to understand the language before we can translate the meaning. The distinction made by Freud between the latent and the manifest content of the dream is not yet appreciated by many critics, but this distinction lies at the basis of the whole of the understanding of dreams. The dream as related by the dreamer is the manifest content; the significance of the dream is obtained by "free association" to this content. We then obtain the latent content, the real meaning.

With neither adults nor children does the method of direct questioning avail. With little children formal analysis is generally impossible. You must pay close attention to the child's prattle, carefully watch his games and his behaviour, and be always on the alert to pick out the clues to the meaning of a dream or symptom. Now as to the main conflicts (always reflected in dreams), these would seem chiefly to centre round:

(a) His interest and joy in his own body and its functions;

(b) His relation of love and jealousy to his mother and father and their surrogates;

(c) A similar relationship to the other children of the household;

(d) His eager interest in the problems of birth and sex, such as the idea that there are two sexes, the relationship between father and mother; and

(e) The feeling of his own littleness and feebleness as well as of his own wonderful power.

There are these interests and feelings on the one hand; on the other we find:—

(a) The inner growth of the child, always reaching out to a new, a more civilised adaptation, a psychic creation, which he will express symbolically by spontaneous creative acts—prompted or suggested imitative acts being no true substitute.

Here is a source of conflict within the mind of the child itself, one conditioned by the very necessities of growth.

“Our little lives are kept in equipoise

By opposite attractions and desires:

The struggle of the instinct that enjoys

With the more noble instinct that
aspires.”

(b) The pressure of the adult, anxious to hurry the child on to the adult point of view, consciously no doubt from the noblest of motives, unconsciously from nothing so respectable.

Within the limits of this article we can only briefly illustrate these various conflicts. The importance that the infant attributes to his own body in the direction of sensual and emotional satisfaction is scarcely a “Freudian invention.” Every nurse, every mother who personally attends her child knows it perfectly, always has known it, and in civilisation, almost from the day of birth, has to set herself to combat it in the interests of civilisation, since the child’s life must become social, not egocentric. The “natural” child, for instance, is interested in his urination and defecation. Why indeed should he not be? It has been necessary for the adult to sublimate these crude physical interests in favour of higher cultural ones, but for the little child all the world is interesting. And why should it be supposed exception will be made for these very curious and interesting phenomena which, in addition, he finds are accompanied by vivid bodily sensations, sometimes pleasant, sometimes very much the reverse? There are some quite normal people who can remem-

ber these interests, many neurotics for whom they have persisted. But the child generally comes to recognise as “dirty” what his elders so denominate and successfully sublimates these interests.

In this connection it is significant to observe how social convention affects the sublimation or repression; while a child of the better classes would never be guilty, except in secrecy, of such a “sin,” children from a low social stratum can be seen publicly playing with their water, and in groups, thus making it clear this is as yet no “secret sin” to be indulged in furtively. Similarly, various other sensitive regions of the body—skin, mouth, nose, ears, etc.—all those which Freud has termed “erogenous zones,” because the pleasurable sensations there experienced will later on all be collected up and transmuted, in part into the adult sex-pleasure, in part into all the cultural life-activities, all these are objects of high interest, of great valuation, and playing with one or other of them the usual procedure (as again all who have first-hand knowledge of very little children will admit), until civilisation comes in with “That’s rude,” “One mustn’t touch that,” and the like.

The interest, the estimation, will find expression, in night-dream or waking phantasy, with every varying degree of plainness or symbolic disguise according to the degree in which education and environment have differentiated into things forbidden and things allowed: this will vary from social stratum to stratum and from household to household. We have known a child as old as six, from a cultivated home where little repression was deemed wise, serenely conclude an outdoor game of “trains,” in which her mother and two men and three women friends had to join, with, “And at the end of the last carriage is the w.c.,” and proceed unembarrassed to perform her functions publicly; whereas a small boy only three and a half years, in whose case civilisation had stepped in more forcibly, considered it a matter of proper behaviour to convey his need to retire only by a discreet nod. The little girl, it may be said in

passing, found no difficulty in conforming in these matters to the usual standard of her social class as soon as she went to school. The general attitude which demanded such an adult standard from the three-and-a-half-year-old did not seem to have the happiest results.

The childish estimation of excreta, an instance of which has been already given, is akin to the mythological view. Innumerable are the fairy tales in which the fairy gold becomes dung on—a step sublimated—dead leaves.

(To be continued.)

Notes on Speech Development. I.

By MARGARET DRUMMOND, M.A.

The subject of this study is a little girl, Margaret, born 2nd June, 1913. She was a strong, healthy baby, weighing 7lbs. 11ozs. at birth. She could raise her head from the first day, and her cry, which was loud, occupied a large proportion of her waking hours during the first few weeks. As her intelligence developed, the crying became less, and before she was eighteen months it was usually quite easy to divert her attention from her troubles.

Judged by the results of other observers she was somewhat slow in acquiring speech. But she is one of those contemplative children who like to consider an activity in all its aspects before attempting it themselves.

At twelve months she used no words. She would babble freely and with evident enjoyment for perhaps half an hour at a time; she would also make sounds expressive of desire or simply to call attention to herself.

At fifteen months she would watch one's lips very carefully if asked to make a special sound, but would rarely try herself, and when she did her attempts were remarkably unsuccessful. From the expression frequently seen on her face at this time it was difficult to believe that she did not feel something of the wonder and mystery of speech, and realise to

some extent the solemnity of the step she was about to take.

Her understanding was very good. She would obey many simple commands and often appeared to grasp the meaning of quite complicated sentences. Thus one day (14½ months) she was clinging to a book that I wished to have and refused to give it up. I asked if she would give me the book if I gave her a biscuit; she promptly handed it over, though, needless to say, the biscuit had not been shown.

She was gradually beginning to use a few more significant sounds to indicate her increasing wants: thus a deep guttural "chwa-wa" combined with a beseeching expression on the face, and hands held up meant, "Please take me on your knee and show me the bow-wow book." If the hands were turned towards the chimney piece the same sound meant, "Please give me the bronze dog that stands up there."

At this period (August, 1914) all her spare time was given to the study of pictures. She would sit quietly on one's knee while page after page was turned over and the different things pointed out and named. Occasionally she would turn round and look in one's face with an expression that seemed to say unutterable things, and she would rarely suffer herself to be put down without vigorous protest. Yet it was hard to get positive indication of how much she understood of what she was looking at. She could very seldom be induced to point to any particular named object herself, but if the things were not pointed out to her she would take my hand and place it on the picture, thus indicating her wish to have it analysed.

She was learning to walk at this time, and that may have delayed the development of speech. When exactly sixteen months she quite suddenly took a long walk through the rooms without any supporting hand. This sudden realisation that she can do a thing seems rather characteristic of her mode of growth.

She still practised simple sounds frequently. On the 23rd August she evolved

"b-r-m," which she kept repeating with great gusto. An "r" had not been heard before.

In the whole course of learning to speak there was very little evidence of transference of a significant sound from one element of a massive experience to another. The following may possibly be an instance, but it is the only one. The child had learned to say "Dada" in response to the question, "Who are the letters for?" On one occasion (sixteen months), on passing a pillar box in the street, she exclaimed, "Dada." There is no evidence that the term was ever used by her to denote her father; it was simply a sound associated vaguely with the postman and the bringing of letters.

In October she might say "bow-wow" when shown the picture of any animal; any bird would be greeted with "shoo"; "mè" was used as a request for more to eat; "tick-ta" denoted clocks and watches, and might be employed either as a noun or as an expression of a desire to be shown a watch or clock. There was some uncertainty as to whether she used any special sound at this time to denote her mother or father or nurse.

In November she added "baby" and "pee" (peep) to her significant sounds.

In January, 1915, "Baby," meaning herself, and "No," were her only proper words, though she continued to have ways of asking for things which involved to some extent the use of special sounds. A little later she made use of a fairly elaborate sign language. One day at her home in Manchester I asked her if she would come to Edinburgh with me. At once she patted her head to indicate she would go and put on her hat. She next patted my head and body as much as to say, "Go and get ready," and then she went and took her mother's hand and pulled her to show that she must come too.

The sign language appeared to be altogether of her own devising; gestures were little used in talking to her.

In March she added several words to her vocabulary: "ere" (there), "cocoa," "tea," "caky," "appoo" (apple),

"bird," "tō" (toast). These words were used as name words or wish words, and were applied with great exactitude. When first seen an orange was hailed as "appoo," and coffee was several times called "tea," but extensions such as these were unusual.

One or two attempts had already been made to teach her the colours red and blue, with their names. From the time she was first able to get about she showed a great love of going to the book shelves, and she appeared to select red books by preference. In the beginning of April she was using the term "boo" freely but quite incorrectly. Thus one day she brought me a piece of blue stuff saying, "boo," but soon after applied the name to her white dress, and three days later she brought me a yellow ruler saying, "boo." Not till the middle of May (twenty-fourth month) did she seem really to know the two colours; even then she could not say "red," but would point it out correctly when asked. I should say that no systematic endeavour was made to hurry her progress, and days might pass in which the colours were not referred to.

Her language included three words of her own: "oo" (pencil), origin not known; "memy" (flower), origin smell; and "mè," which expressed a wish for more to eat or drink.

Like all babies little Margaret used a good many duplicated words. For most of these I think the adults about her were responsible, but "bubu" (book) was probably her own.

By the time she was two the only phrases she used were "wee baby," "dood baby," "appy baby," and "vay, vay tata." She was interested in letter forms at this time, and could name about ten of them: "O" and "S" were the oldest friends, and had been discriminated when she was about fifteen months.

In the twenty-sixth month she was forming little sentences descriptive of what was going on; e.g., "Onkel lee" (uncle is reading), "Faver pu baby lay" (father is pulling baby's hair). "A" was worked hard as a preposition. It usually

meant "to" or "for." Thus she would say, "Dō a mam-ma." One day I gave her something to hang up on a peg beyond her reach. She tried, then remarked, "Too hot a baby," and immediately corrected this into, "Too high a baby." She was slowly increasing her stock of words, but pronunciation was very imperfect, e.g., "poop" (soup), "ow dō loo" (out-door shoes), "neen" (clean).

For the most part Baby's talk still belonged to the present. She was beginning, however, to use it to give information. Thus in the end of July she told her mother, "Baby fa' pa," referring to a fall on the path which she had had an hour or two earlier.

At this stage her tongue went almost without cessation; she would repeat one thing over and over, but neither now nor later did she practise words without meaning. At breakfast time she would take her stand by her chair and repeat "Baby up" with the persistency and monotony of a ticking clock till some one attended to her, when literally without a pause it would be, "Baby bè, Baby bè, Baby bè" (bread), till some one supplied this also, and for a few minutes there was peace. Another device by which she secured a good deal of practice was to repeat any observation she made to each member of the family individually. These habits of course evoked a certain amount of criticism, and in face of the gentle social pressure thus exercised they did not persist long.

Her attitude to number was the subject of some observations. In her twenty-third month she constantly brought two things, and held them out saying "two." In her twenty-sixth month she would count up to three when pulling flowers. On the 3rd August she was holding three pins for me. Spontaneously she said "Two," but immediately corrected herself and said "Lee" (three). I took one away, whereupon she said "Two." On my taking away another she said, "Non" (one). On the whole she seemed to make the abstraction necessary for number more easily than that required for colour.

The child's thinking powers now began to require complex sentences for their expression. On the 17th August she remarked, "Baby have tat bubu a wee baby" (Baby had that book when she was a wee baby). A few days later she wished to try to tie a ribbon on my blouse. I said it was too high for her. She immediately patted a chair, and said, "Ahtie teet lay, Baby tie" (If Auntie will sit there, then Baby can tie). Her reasoning power was evidently developing. One day she was told the street was too wet for her to walk; she resigned herself to fate and was wheeled along. After a little she spied a dry piece of pavement and said, "Tat dy; Baby walk lay."

In looking at pictures she now enjoyed making comparisons; she had a set of animal pictures which were arranged in pairs; she would go over these pointing and commenting thus, "Tat tanin (standing) up, tat sitting down; tat nong (long) tai, tat shor tai," and so on.

She usually spoke of herself as Baby, but was beginning to use the pronoun "I." When we said, on putting her into her perambulator, "In you go," she would respond, "In I go." Her use of the pronoun you was generally correct. One evening, however, when some one said to her, "Call uncle to come to you," she shouted out, "Onkel, mam (come) a you."

By September (twenty-eighth month) it was not easy to remember all the words she used, but many of them were much mutilated, only the first syllable being given in many cases. She was much more willing to try to imitate a sound, and was more successful. Careful watching of the lips was still noted.

In October her attention was called to the peculiarities of the third personal pronoun. She at this time uniformly said "her" in place of "his." She was told one day that father was "he." Conversations such as this took place. "Faver he?" "Yes." "Nana he?" "No, Nana she." "Lalla he?" "No, Lalla she." "Mamma he?" "No, Mamma she," and so on.

During the winter months she talked continuously, and her vocabulary now began to grow with great rapidity. Her sentences were sometimes fairly long, and especially when she was a little excited the words would come in a very unusual order. Her pronunciation improved so much that as a rule she could be understood by anyone without the aid of an interpreter.

In December an attempt was made to obtain a full vocabulary, with results that will be referred to later.

In January, 1916, came a notable confirmation of her interest in lip movements. She had brought me a doll and asked me to sing to it. I began singing la la, and as I did so I noticed her watching my face with her funny little enquiring expression. Presently she remarked, "You sing la la with your tongue." "Of course," I said, "how else would you do it?" She had been playing with some doll's house furniture, and among the articles was a little mirror. This she now picked up, and she began to sing la la herself, closely observing her actions in the mirror.

In referring to herself "Baby" and "I" were both used freely. A favourite phrase was "Let *I* do it." She was generally very quick to accept a correction, but this form persisted so long that it seemed as if it was felt to express her meaning better than the more conventional "me."

In spring she began to investigate time words. "Yesterday" was used readily and correctly in March (thirty-fourth month), probably sooner. Such words as "to-morrow" and "by and bye" were the subject of enquiries, of which the following may be given as representative: "Are we going home now?" "No, by and bye." An interval, during which her relatives have forgotten what has passed. "Is it by and bye?" "No, it's now." "Are we going home?" "Yes." "Thought we were going home by and bye." This last was in an expostulating but resigned tone of voice. No answer seemed expected.

(To be continued.)

Suggestions for Study and Practice.

The Value of Sectional Class-teaching.

"Selecting the best readers in the class, I called them Group I., let them have books, and told them they might read to themselves, and I would hear afterwards how they had managed. This was allowed as an honour, and so long as they worked honestly they would at times be left to work alone, helping one another with any difficult word that occurred. The children ...worked, not mutely but with a busy noise, and anyone could see that all were working with a will.

"My whole attention could now be given to the second group, and in a short time this section was able to be divided into two parts, which I called Group II. and Group III. Group II. was treated in a similar manner to Group I., and having set these apart it was now possible to give individual attention to the slow ones of the class...Having the class arranged thus in three sections, I found that with careful handling every child in the class was working, and the interest in their reading increased."—*H. Fitt*, on "An Experiment in Sectional Teaching," *Child Life*, October, 1915.

The Teaching of Defectives. "Remember that work and exercises demand much energy, and but little skill are called for in the lower grade cases. Never let anything be learned off 'parrot-fashion' unless it is also understood...The old teacher's maxim for all bad habits requiring correction has a very special application [to defectives]: 'Don't say "Don't," say "Do".' In other words, replace bad habits by the corresponding good or proper ones...as with infants when one wants to get an article from them—give them another object to take its place."—*Dr. Meredith Young*, in his book "The Mentally Defective Child."

What we may learn from the Feeble-minded. "I sometimes think, in his [the feeble-minded] relationship to normal children, he may be compared with the salts or acids used by the chemist in determin-

ing the relationship of the material things of the world. His mind functions slowly. He may have a mentality of five years and keep that mentality through twenty years. So the skilful student may learn many of the things that a normal five-year-old does, why he does it, and how he does it, by studying the feeble-minded. After all, he develops along much the same lines as normal children do, but more slowly, and if we will study and observe him we can learn many lessons of great value in teaching normals."—*The Training School Bulletin*, February, 1916.

Child-Study Association and the Constituent Societies.

The Birmingham Society.—The following dates are proposed for the Child-Study Lectures this session, at 6 p.m., in the King Edward's High School, New Street:—October 10th, November 7th, December 5th, February 6th, March 6th, April —. The lecturers will include Lord Sandwich, Dr. Airy, and Miss L. E. Bowler. It is hoped that one evening will be devoted to a discussion on "Versification in Schools"; and an afternoon to visiting Conway Road Infants' School, to see the dancing and rhythmic exercises of the children.

The Hartlepoons and District Society.—The list of lectures, up to Christmas, is as follows:—

Sept. 8th.—*The Teaching of Arithmetic*, by Professor T. P. Nunn, M.A., D.Sc.

Oct. 20th.—*Spelling Reform*, by Professor W. Rippman.

Nov. 16th.—Dr. Saleeby.

Dec. 1st.—*The Future of the English Boy*, by J. G. Legge, Esq.

The London Society.—The following lectures have been arranged:—

Thursday, Oct. 12th.—*The French Child at School*, by Cloudesley Brereton, M.A. Inspector (Education), L.C.C.

Oct. —.—*The Centre of Gravity in Educational Reform*, by Dr. M. E. Sadler, C.B., Vice-Chancellor, University of Leeds. The date will be announced in the L.C.C. Gazette.

Thursday, Nov. 16th.—*Discussion on Hand-writing*. The chair will be taken by Dr. C. W. Kimmins, who will give an account of the further special tests in manuscript writing. Papers will be read by Walter Scott, H.M.I., on *The Artistic Aspect of Manuscript Writing*; by J. W. Samuel, Headmaster of Millwall Central School, on *Manuscript Writing in a Central School*; and by A. Sinclair, Headmaster of Trafalgar Square School, on *Manuscript Writing in a Boys' Elementary School*. The papers will be illustrated by lantern slides.

Obituary.—It is with deep regret that we have to record the death of Sir Richard Martin, who was elected Treasurer of The Childhood Society in 1896, and filled the like office on the formation of the Child-Study Society, London, of which he also became President in 1912. Sir Richard was one of the kindest of men, and although a banker and a man with many interests in the City, he was always ready to help in all philanthropic and educational works. He was one of the earliest supporters and Hon. Secretary of the Metropolitan Hospital Sunday Fund, Treasurer of St. Mark's Hospital, Royal National Orthopaedic Hospital, Association for Promoting the Welfare of the Feeble-minded, and the Royal Statistical Society.

Our sympathy and a deep gratitude are offered to the relatives of those members who have given their lives in the service of their King and Country. So far we have heard of two members of the London Society:—Captain Alexander Graham, M.D., R.A.M.C., late Medical Inspector of Schools for West Ham, who died of wounds received in the Dardanelles; and S. M. Dikshit, B.A., LL.B., who was drowned in the sinking of the ss. *Persia*.

The Manchester Society.—Syllabus of lectures for 1916-17:—

Oct. 21st.—Meeting of Associated Educational Societies.

Nov. 17th.—Discussion on *Montessori Methods as applied to English Schools*. H. Ward, Esq., H.M.I. (Manchester).

Dec. 8th.—*Eurythmics*. Miss Elsey Findlay (Manchester).

Jan. 19th.—Discussion on *New Conditions of School Life as a result of the War*. Speakers: Miss C. Herford (The University, Manchester), I. Steer, Esq. (Southall Street Boys' School, Manchester), Miss Sweaney (Alfred Street School Infants' Department, Harpurbery).

Feb. —.—*The Little Commonwealth*. Homer Lane, Esq.

March 16th.—*The Girl Guide Movement*. Miss Behrens (Commissioner, Manchester, Salford and District Association). Demonstration by Miss Ingram (County High School for Girls, Altrincham).

Notices and News.

L.C.C. Lectures.—There are eight courses of lectures on Pedagogy to be given during the winter, which are open to all engaged in teaching, and include:—"A Psychological Introduction to Child-Study," by Miss L. Brackenbury, M.A., and "Consciousness and its Manipulation in School Work," by Professor John Adams, M.A., B.Sc., LL.D. Many other courses valuable to teachers are also being given. Full information can be obtained from the Education Officer, L.C.C. Education Offices, Victoria Embankment, W.C.

Our Journal in India.—As a result of the interest aroused by the reading of CHILD-STUDY we have received a request from Howrah, Bengal, for information as to the establishing of a Constituent Society there.

Reviews.

Kinderstudie. Pp 103. J. P. Ploegswd, Zwolle, Holland. Price 5s. per vol. of 256 pp.

This is the first number of a periodical under the auspices of the Child Knowledge Society in Amsterdam. It is not to appear at fixed times, but as the society may judge necessary. Each number is to consist in part of a careful summary of the aims of the society and the history of the movement. The article in this number is a lucid outline of the rise and world-progress of child-study, with special reference to the differences peculiar to each country. There is a carefully defined statement of the scope of the magazine.

One article deals with the development of the power to draw, coupled with the ability to recognise familiar articles from outline drawing. The gradual evolution of a recognisable drawing from the first aimless scratches, through the period of scratches which have a meaning for the author only, is carefully brought out. The tendency of the older child to draw what it knows to be there, rather than what it sees, is dealt with. Both these parts are copiously illustrated. Then follows a diagrammatic comparison of the divisions of this early work by leading psychologists, and graphs, showing at what age the various parts of the body appear in children's drawings.

The part devoted to children's recognition of drawn objects is most fascinating. There is a series of objects partially drawn in outline, each drawing ceasing as soon as the child (under two) named it. With animals the head is apparently sufficient; but with everyday objects more detail is necessary and the names are sometimes fanciful. The second series is one in which the head of one animal is drawn with the body of another. Here the child invariably named the animal from the head. If, however, only the body were exposed, that was often correctly named. One child, living near a zoo, called a cat-dog a hyena.

The last paragraph deals with the resemblance between drawings made by children of five and six and adult savages and nature peoples, discussing the familiar statement "The childhood of the race is repeated in that of the individual."

A bibliography section has three parts:—(1) A carefully compiled list of references to other works dealing with magazine subjects. (2) A list of foreign child-study literature and where to apply for it in Holland. Our own magazine is to be found in the Netherlands School Museum at Amsterdam. (3) Reviews and book notices.

All who know Dutch will find much to stimulate thought in this periodical, and others less fortunate should find the illustrations helpful.

Children's Ways. By Professor JAMES SULLY, M.A., LL.D. Pp. viii., 193. Longmans, Green and Co. Price 2s. net.

This is a cheap edition of Dr. Sully's well-known abbreviation of "Studies of Childhood." All parents and young teachers who are beginning to study children will find this book as helpful as it is interesting and attractive.

Mentally Deficient Children, their Treatment and Training. By Dr. G. E. SHUTTLEWORTH and Dr. W. A. POTTS. Pp. xix., 284. H. K. Lewis and Co. Price 7s. 6d. net.

This is the fourth edition of this widely known book, in which "much has been re-arranged and re-written. Chapter vi., dealing with the mental troubles of youth, has been added." A French edition has been published, and a Japanese translation is proposed. There is no need to recommend further a work which has been so successful as this one.

The Mentally Defective Child. By Dr. MEREDITH YOUNG. Pp. ix., 140. H. K. Lewis and Co. Price 3s. 6d. net.

This book is based upon a course of lectures given as a Special Summer Course for Teachers at Birmingham, and is "specially written for laymen," i.e., non-medical people. The topics treated are:—The examination of the child; types of mental deficiency; some conditions in mental deficiency, and distinctions between mentally defective children; the moral imbecile; the Binet-Simon tests; illustrative cases; education of the feeble-minded; various Acts of Parliament.

The author writes lucidly and interestingly, and gives very helpful guidance. It should prove an excellent book for giving a young teacher a clear bird's-eye view of the problem of educating defective children. Its great fault is that it is much too brief and summary, especially on the educational side.

Toy-making in School and Home. By R. K. and M. I. POLKINGHORNE. Pp. 299. George G. Harrap and Co. Price: Complete 7s. 6d. net, Part I. 4s. net, Part II. 4s. net.

This is an excellent reference book for teachers and parents who wish to know of models and how to make them. Numerous and attractive examples are given, with full details as to construction, and first-rate illustrations. The book is too well produced; it would have been equally useful in a much cheaper form as to paper, printing, etc.

PUBLICATIONS RECEIVED.—*Journal of Education; Educational Times; Child-Life; The Parents' Review; Secondary Education; School Hygiene; Educational Review (U.S.A.); Child-Life (U.S.A.); School and Society (U.S.A.); The Training School Bulletin (U.S.A.); School and Life (Petrograd); Knowledge and Character*, by WILLIAM ARCHER, pp. 28 (The Moral Education League); *Cutting-Out*, by BERTHA BANNER, pp. 30 (Longmans), 3d. net; *Control*, an address to Scoutmasters, etc., by E. A. HUMPHREY FENN, pp. 32 (W. Heffer and Sons, Cambridge), 6d. net.

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A New Test for Fatigue. IV.

By JAMES DREVER, M.A., B.SC., D.PHIL.

Our next experiments were carried out on the assumption that the test was a reliable one, with the object of tracing the effects of a normal working day at college or school on mental control, or on fatigue. The subjects were volunteers from among the second year non-university students, the members of the Training College Staff, and the members of the staff of the Demonstration School.

Typical results are shown by the graphs in figures 2, 3 and 4. As in the other experiments the subjects were given some preliminary practice until they could perform the reversals fairly rapidly, and were not showing any marked improvement with further practice. They then gave a record before beginning the day's work, and at each of the various intervals during the day, the time given to the record being, as previously, about thirty seconds. Records were taken both at the beginning and at the end of the lunch interval. The students were taken in two groups, one group on what might be termed a hard day, the other group on an easy day.

Graphs of the first group are shown in fig. 2, and of the second in fig. 3. It should perhaps be noted that A.M.B. was suffering from a severe headache in the afternoon, and the effect of this is well indicated.

Fig. 4 shows the graphs for two teachers in the Demonstration School. Both were former students, who had taken a course in the laboratory, and one of them had wrought in the laboratory for two years.

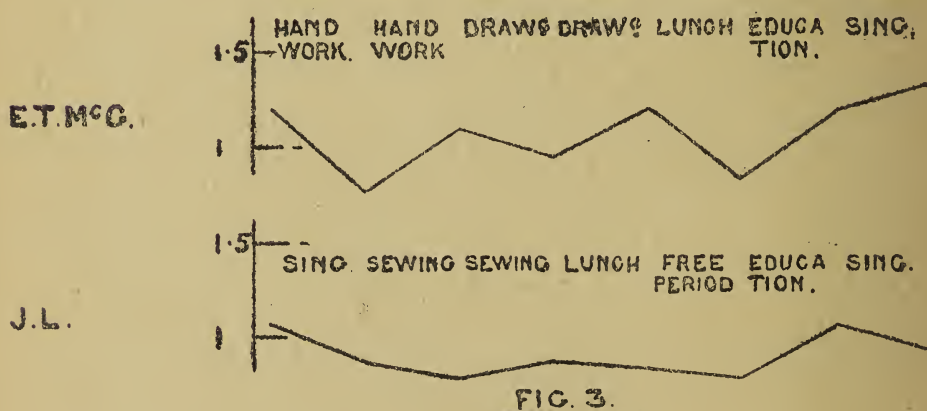
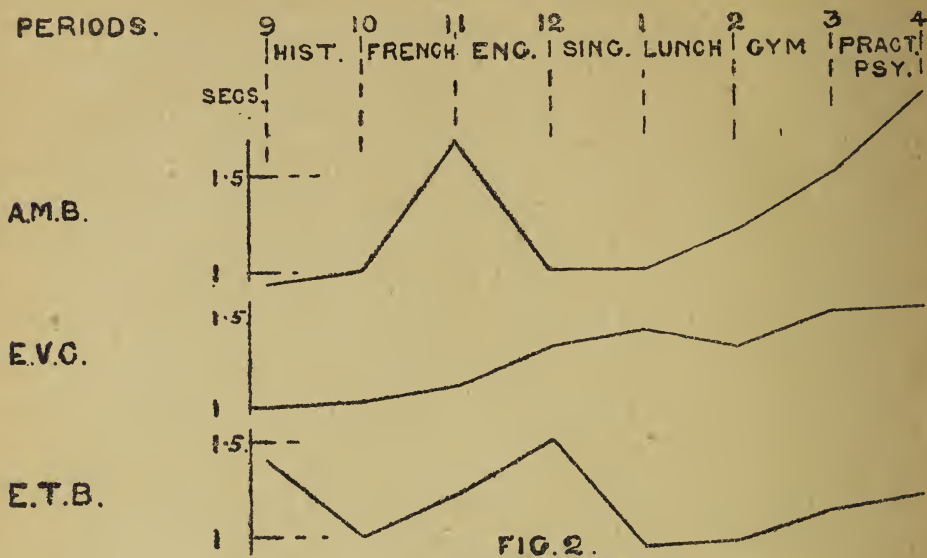
It is, of course, obvious that the mere fact of a student's being present at a

lecture is no guarantee that the student in question was doing real strenuous mental work during the lecture hour. To make such an experiment complete we should require to have from each student a careful and detailed account of what was actually done during each hour. That we did not obtain, but we mean to attempt to do so in future experiments of this kind. In spite of this defect in the experiment, interesting results were got in many cases, as the graphs prove. An hour at gymnastics slowed the rate of reversal in every case. An hour at singing had generally the opposite effect. Of two successive periods at the same subject, the second generally caused a slowing of the rate. Although no fatigue that matters is involved in the course of an ordinary day's work at the Training College, most of the graphs show a distinct tendency to rise in the time of reversal during the afternoon. On the whole, however, we would not suggest that our results can be regarded as in any way final. They are merely sufficiently interesting to stimulate the desire to pursue the investigation farther.

The most striking advantage of the "reversible perspective" test for fatigue is probably the ease with which the test may be given. With the smoked drum, the tapping circuit, and the time circuit, all in readiness, the giving of the test requires about half a minute, and it is therefore eminently suitable for the kind of investigation we have just described. At the same time it must be remembered that a preliminary period of practice is absolutely necessary, and there are evidences of considerable practice gain, even after fairly extended practice. The most serious disadvantage under which the test labours is the lack of any objective control of the

records. Obviously, if the subject is aware of the kind of result expected, there will be a tendency for this awareness to act with the force of suggestion, and for the subject to give, quite unintentionally, the kind of result desired. It does not

dren. There would, of course, be no difficulty with children of thirteen or fourteen years of age, but with younger children it is very doubtful whether reliable results could be obtained, at any rate by applying the test in the same way as with adults.



seem possible to overcome this disadvantage, unless by getting the subject to strive against this effect of suggestion, and relying on the subject's *bona-fides*.

Another apparent disadvantage of the test is the difficulty of applying it to chil-

With children of seven or eight it would seem impossible to apply the test satisfactorily in any way, but it is perhaps not impossible to apply the test to children from ten to twelve. With a view to deciding this question, and also to discover

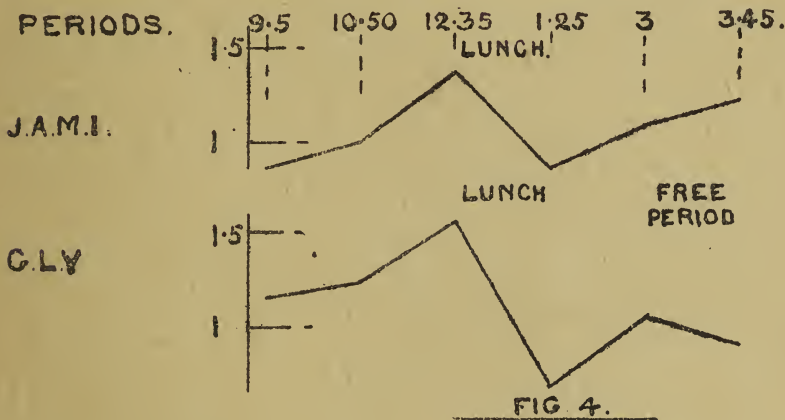
how far the test might be used as a group test, we obtained permission from the Headmaster of the Demonstration School to try the test with a class of children, aged about ten. Miss J. A. Inverarity, M.A., a former student in the laboratory, who had charge of such a class in the school, kindly consented to make the trial. For this purpose Ash's procedure had to be modified, but the experiment remained essentially the same.

Using the colours we had found most suitable, we first of all prepared a special figure which could be stuck up on the blackboard and easily seen by the whole class. Miss Inverarity then gave the class some lessons in perspective and the

Finally, the experiment itself was taken. The children performed the reversals for thirty seconds before work began in the morning, at the end of each period, and at the end of each interval during the day, nine tests in all being given.

The following is the time-table of the test day:—9.5 a.m., test 1; 9.5-9.55, Bible; test 2; 9.55-10.50, reading and spelling; test 3; 10.50-11, interval; test 4; 11-12.30, arithmetic and geography; test 5; 12.30-1.30, dinner interval; test 6; 1.30-2.55, drawing and history; test 7; 2.55-3.5, interval; test 8; 3.5-3.35, grammar; test 9.

It will be noted that tests 5 and 7 are after long periods of work, and tests 4, 6



representation of solids in drawing, and called the attention of the children to the two positions in which the cube could be seen, representing both positions separately on the blackboard. The children were next instructed to make a cross on a sheet of paper given them, when one end seemed to be the end of the cube next to them, and a cipher when the other. Lastly, they were told to try to make the figure change as rapidly as possible, recording the changes in this way.

After every means had been taken to make the children understand what was required, the preliminary practice began. This practice extended over ten days, with several short periods of practice each day.

and 8 are after intervals, test 6 being after the long dinner interval. Table II. gives the results for the class, the boys and girls separately, with the exception of about half a dozen children, whose inclusion would not have affected the general result in any significant way, but who have been excluded because their papers showed clearly that they did not still understand what was wanted. Several of the others are doubtful, but have been included. The numbers give the reversals in thirty seconds in each case, being obtained by counting the crosses and ciphers made by the children. We have also given the median value for each child, and the semi-interquartile range as a measure of vari-

A New Test for Fatigue.

TABLE II. *Time taken for the Test (in seconds).*

<i>Girls.</i>	1.	2.	3.	4.	5.	6.	7.	8.	9.	<i>Med.</i>	<i>S.I.R.</i>
H.McD.	10	16	17	16	18	19	15	20	18	17	1
M.S.	9	13	16	18	14	21	13	23	13	14	2.5
L.W.	—	8	10	9	9	11	8	9	9	9	0
R.F.	8	6	8	8	10	13	8	10	9	8	1
N.L.	4	6	11	10	9	14	12	12	9	10	1.5
M.H.	6	7	10	8	9	12	9	12	12	9	2
J.A.B.	6	7	10	8	9	9	9	12	9	9	.5
A.S.	7	5	7	10	8	8	11	11	7	8	1.5
J.J.	8	14	14	12	8	17	12	15	7	12	3
G.R.	5	6	5	4	10	9	7	7	4	6	1
M.K.	7	11	12	16	9	16	7	9	7	9	2.5
A.H.	14	9	10	18	7	14	9	13	13	13	2.5
N.C.	11	15	22	18	13	19	14	21	14	15	2.5
S.L.	15	15	16	17	16	21	16	18	16	16	.5
E.D.H.	8	11	11	16	16	17	14	16	19	16	2.5
G.T.	9	9	12	11	9	11	—	15	12	11	1.5
I.O.	10	9	12	11	13	8	8	13	7	10	2
L.S.	8	11	13	12	11	13	10	18	15	12	1
E.W.	9	10	12	12	11	11	9	7	10	10	1
P.D.	8	7	9	7	6	7	5	5	4	7	1
A.McG.	7	14	13	9	13	14	8	17	14	13	2.5
R.B.	10	11	18	18	15	24	13	23	17	17	2.5
Mean	8.5	10	12.2	12.2	11	14	10.8	13.9	11.1		
Mean Reversal	3.5	3	2.5	2.5	2.7	2.1	2.8	2.2	2.7		
<i>Boys.</i>											
G.T.	19	22	16	24	14	20	18	13	24	19	3
P.G.	14	19	17	20	21	16	15	19	16	17	1.5
W.G.	9	14	14	22	18	13	13	17	14	14	2
J.E.G.	10	16	12	16	11	22	15	22	22	16	5
B.N.	8	12	16	14	14	14	10	19	22	14	2
A.V.	11	10	15	16	12	17	11	17	15	15	2.5
T.C.	13	12	15	16	15	14	10	15	18	15	1
T.A.	8	9	12	10	8	11	10	11	10	10	1
J.B.	12	13	15	16	11	20	12	19	11	13	2
R.S.	12	13	18	16	19	22	14	20	12	16	3
P.H.	12	15	16	15	14	18	14	19	18	15	2
A.B.	8	7	9	8	6	14	6	16	5	8	1.5
J.G.	5	6	9	7	9	12	7	9	5	7	1.5
D.M.	8	9	8	10	7	9	7	14	9	9	.5
W.C.	9	10	14	10	11	14	7	15	14	11	2
W.B.	16	—	12	12	10	9	8	14	11	11.5	1
S.S.	7	8	12	12	9	13	15	11	10	13	1.5
J.A.	10	15	12	10	9	—	11	12	13	11.5	1
F.P.	13	14	18	16	12	13	15	11	10	13	1.5
D.A.W.	12	10	12	12	14	18	14	18	16	14	2
B.S.	9	10	12	13	9	15	9	11	13	11	2
R.S.	12	9	15	14	9	12	10	15	13	12	2
A.D.	16	15	14	18	15	21	15	15	13	15	.5
Mean	11	12.2	13.6	14.2	12	15.3	11.2	15.3	13.6		
Mean Reversal	2.7	2.5	2.2	2.1	2.5	2	2.7	2	2.2		

ability. The use that can be made of these is not at present obvious, but they at least show the relation of the highest and lowest rates of reversal to the central rate, and the regularity or irregularity of the rates themselves. For the latter purpose the semi-interquartile range is more suitable than the mean variation owing to the small number—nine—of the records, but very little weight can be attached to it, owing to the fact that extreme variability is sometimes shown with a small interquartile range. In the last line in each division of the table we give the rates of reversal in the same way as in the other experiments, that is, in mean time taken for one reversal.

We consider that the main object of our experiment was attained. This was to show that Ash's test could be used as a group test with a class of children. Apart from this result, there are some other points worth noting. Without attaching too much importance to the results of a single investigation, we may nevertheless indicate some of the facts which these results bring out. In the first place, there seems to be a marked gain in efficiency during the first two hours of the school day. In the second place, though a long period of work diminishes efficiency, a short interval is generally sufficient to restore it. In the third place, decrease of efficiency appears to show itself early during the afternoon session. An interesting difference between boys and girls seems also to be indicated. The tendency towards a final spurt shows itself in the case of comparatively few of the girls—A.S., E.D.H., and E.W.—but in the case of considerably more of the boys—G.T., B.N., T.C., J.A., B.S.—and this is reflected in the two means. While the time for reversal increases during the last half hour of work from 2.2 to 2.7 secs., among the girls, the increase is only from 2 to 2.2 secs. for the boys.

On the whole, then, we should say that the "reversible perspective" test is one that is well deserving of further study. It appears to be as reliable as most fatigue tests. It is more delicate or sensitive

than any we have hitherto used. It can be given easily and in a very short time, either as a group test or as an individual test. Further investigation will no doubt bring out many things in connection with the test, which are not at present obvious, but we believe such further investigation will be eminently fruitful. The two aspects of the test which we are in the meantime studying are the effects of practice and the individual variability in reversal time. But there are surely many readers of this journal in a position to apply the test further as a group test either with school-children or with adults.

Some Material for the Educational Study of Fairy-Tales.

By MISS JANET K. GARTSHORE, M.A.

The fairy-tale of modern days is a survival from prehistoric times and primitive societies. For those who would interpret it, it shadows forth the beliefs and the customs of men in a more or less uncivilised state. Thus it can readily be understood that there are objectionable elements in fairy-tales.

The physical impossibilities, the inconsistencies, the traits that shock the modern moral sense, all strike the educationist very forcibly on a critical examination. For these tales arise in times when man was ignorant of law in nature, and imagined a personal agent behind every natural phenomenon. They are often the creations of a society whose moral level was not that of modern times, and whose customs we could not tolerate.

Is it well, therefore, from either the intellectual or the moral standpoint, to provide children with such mental food? Such stories present a distorted world, governed by arbitrary wills, and full of suggestions of evil. Now the child finds it hard enough to distinguish between good and evil, true and false in the real world into which he is born, without being hindered by twisted conceptions from a world of the imagination. Should the edu-

cationist therefore banish the fairy-tale completely?

Most children are fond of fairy-tales, for there is a certain correspondence between the mind of the child and that of the savage; in other words, the development from childhood to maturity follows on broad lines the evolution from uncivilised to civilised man. Can this interest not be used by the educator to quicken the imagination and encourage creative powers by means of carefully selected, and, if need be, re-written fairy-tales? As for the lack of order in the fairy world, does the child discern order in the *real* world till he has come to a realisation of his self as a distinct personality? With the firmer grasp on reality will there go the putting away of childish things, and among them fairy-tales?

The following account of a few tales written by a schoolgirl of fourteen years may help to throw some light on this subject. She had a pronounced preference for fairy-tales till an age when most children have lost the taste for them, which may account for her having sufficient command over language to write a few.

Of the nine tales preserved, seven are fairy stories, the others having been suggested by "Treasure Island" and Balantyne's "Coral Island." During the time of writing these nine the writer's interest in fairy-tales steadily waned, till it ceased. The next entries in the book are pieces of verse. From the age of sixteen she wrote neither prose nor verse.

The turning from the world of the fairy-tale to that of reality may be traced in the tales given here. The earliest in date is

The Wicked Woman.

Jan has a scolding wife, with whom he has no peace. He wishes her down a deep hole in the forest; the wish comes true, and Jan returns home tranquilly. But the underground giant, whose skylight she has fallen through, objects, and Jan has to take her back. Unfortunately, she is now far worse. Jan seeks the aid of the giant, who sends her ostensibly to

"Hatterland," but in reality captures her to provide him a feast. Jan overhears his plans to eat him too, and prepares a poisoned sheep, which he presents to the giant. In the underground kitchen he finds his wife "boiling for the soup"! By means of oversalting the soup Jan contrives that the giant sets it aside to eat all the more of the sheep, and so is poisoned. Jan liberates the usual imprisoned princess, confiscates the treasure, and weds the young princess to a neighbouring prince.

The source is no definite fairy-tale, but many typical fairy-tale elements are present: the cannibalistic giant, the captive princess and an element of magic, all woven into an original story.

So far as the writer remembers, the story seemed to come into her mind of itself, and cost merely the trouble of writing down. She was at home in the fairy-tale world. A gentle, shy child in real life, she realised nothing of the sin and suffering portrayed, *e.g.*, in the treatment meted out to Jan's wife, and in his poisoning methods, for on reading the story later she was shocked to find she had imagined such things.

In the next story the impossibilities and crudities of "The Wicked Woman" have given way to a less fantastic and more moral conception.

Pat and the Mountain.

Pat lived with his widowed mother at the foot of a cloud-capped mountain. Great was his longing to climb it, and at length he gained his mother's consent and set off. After a long, stiff climb he reached the top, on which was a cairn. On attempting this he was beaten back by a shower of stones, but, nothing daunted, he climbed on, and found, to his astonishment, a tiny, old man at the top. His clothes were the colour of mist, and his hair like grey lichen. "He spoke, and his voice was like the sighing of the wind in the pines." This Grey Man had mistaken Pat for his old enemy the King of the Underworld, but now he recognised him as the boy who lived at the foot of the

mountain. Praising him, much to his embarrassment, for his steadiness and devotion, the Grey Man offered him whatever he might wish. He wished for a cottage in a glen on the mountain-side, there to live with his mother, but he was uncertain to whom he should pay the rent. The Grey Man, as landlord, requested a basket of cherries each year, and, by his fairy power, had the cottage ready before Pat descended the mountain-side.

The source is no more definite than the typical folk-tale of the little people of Scotland and Ireland, on which the tale, in its simplicity of narrative and *naïveté* of style is modelled. The idea of the mountain-scaling was suggested by the writer's own inordinate desire to get to the top of everything, and the fact of the rent being a basket of cherries was taken from an actual occurrence.

Though the supernatural element is still strong, the Grey Man is neither crude ogre nor typical fairy, but a personification of the spirit of the mountain-top, and, moreover, an entirely good force.

Here the writer is bringing observations from her real life into the fairy-world, and has definitely abandoned the low moral plane of her first tale. In none of the other stories is there anything objectionable from the moral point of view.

The only claim of the next story to be a fairy-tale is that in it animals talk and act intelligently.

How Tom and Tim Left the Forest.

Two boys, brought up by a gorilla in an equatorial forest, are moved by longing after their kind to go in search of men. They travel through the forest, helped over difficulties by the gorilla and a python. On the other side of a range of mountains they discover the tribe to which their parents belonged. There they settle down and eventually marry.

The idea that nature prompts the human being isolated from his fellows to return to a social state forms the unity of the story—a human idea, and the description of forest and mountain is so realistic as to

make the supernatural element rather incongruous. The moral atmosphere shows that the ruling power is good, as nothing but kindness is shown the travellers by beast and man alike.

After this the writer's interest in fairy-tales wanes rapidly. "The Island," an adaptation of "The Coral Island," is quite possible, and lays claim to be probable. Of the next three fairy-tales one is a burlesque, another a love story, the third an allegory, the interest lying anywhere but in the fairy element. The writer remembers distinctly how they dragged on her hands, for she was no longer at home in the fairy-tale world.

The transition is clear from the preference for the fairy-tale with all its disregard for truth in the physical and spiritual worlds to the preference for stories which will conform to reality in both spheres.

Can we turn this study to account in helping us to decide with what precautions the fairy-tale may be given to children?

In the first place, the moral objection may be removed, for it is quite possible to have fairy-tales without anything morally objectionable. It lies with the parent and teacher to see that the child never gets a story that might harm him.

Then, if the fairy-tale is permitted in education, as allegory or pure imagination, for the sake of the undoubted interest of children in it, the educator is following the lead of nature if he emphasises the human or real part of it, since that, as we have seen, will naturally be the part to predominate.

Notes on Speech Development. II.

By MARGARET DRUMMOND, M.A.

The vocabulary, which has been already referred to, was taken in the end of December, 1915, that is, when the child was thirty-one months old. Unfortunately the observers were not able to be with her constantly, so that many words certainly escaped notice; moreover, the period during which the observations were car-

ried on was rather a short one—six days only (29th December to 3rd January).

About a fortnight earlier a vocabulary had been taken in a much less systematic way. In this vocabulary I found one hundred and thirty-five words which did not occur in the second, and as nearly all these words were recognised by the parents as freely used by the child, I have included them in the list given. One reason for the discrepancy is that many of these words belong to the Manchester environment—the home environment—whereas the second vocabulary was obtained in Edinburgh.

The method employed was to have notebook and pencil always ready, and write down the words as they were spoken, or very shortly afterwards. Sentences were often recorded, and this was the best plan; otherwise one sometimes was in doubt as to the part of speech represented by the word. By asking for the names of objects and by the use of picture books we endeavoured to get as many words as possible. This method to some extent overreached itself, for it tired the child, and at least on one day Margaret sought refuge in “I don’t know,” when asked what she called perfectly familiar objects. The expression on her face suggested that this was partly a joke on her part or mere laziness, but it is of course, quite possible that a child might use a word freely when required by her own needs, and yet not be able to give it at a moment when she had no particular interest in it. The vocabulary follows—

Nouns: Apple, apron, arm, auntie, baba, baby, bacon, bag, bagpipes, baking-board, ball, barrow, basin, basket, bath, bathroom, beads, beard, beastie, beaver, bed, bedtime, bee, bell, belt, bicycle, birdie, biscuits, bit, “bity-beast,” blanket, blinds, blouse, boat, bones, bonnet, book, boots, bow-wow, box, boy, bracelet, bread, breeks, bricks, brush, bubbles, bugle, butter, butterfly, buttons, cakies, camel, card, carpet, cellar, chain, chair, cheek, chin, Christmas-father, circle, claws, clip, cloak, clock, coals, coat, cocks, cocoa, coffee, collar, colour, comb,

combinations, cork, cot, cotton, cousin, cow, creeper, “creepie-crawlers,” crumbs, crust, cubes, cup, cupboard, curls, curant, curtains, cushion, custard, daisies, darling, dimples, dining-room, dinner and dindin, dish, dog, dolly, donkey, door, drawer, dress, dressing-gown, drink, drum, duck, duster, ear, edge, egg, eiderdown, elbow, elephant, envelope, eyes, eyebrow, face, father, feather, feeder, feet, fender, fingers, fire, fists, flag, floor, flour, flower, fog, foot, forehead, fox, frog, gaiters, games, garden, gate, gee-gee, girl, glass, glasses (eye-), go-cart, gran’pa, gran’ma, grass, gravy, ground, hair, hair-pin, hand, “hanky,” hat, head, heel, hens, hiccough, hole, honey, hood, horns, house, “hushie,” ink, iron, jam, jelly, jug, juice, kangaroo, kettle, key, “kiltie,” kind, kiss, kitchen, kitten, knees, knife, ladder, ladle, lady, lamb, leaves, leg, letter, lid, light, line, lion, liquorice-powder, looking-glass, lot, lovey, machine, mamma, man, marmalade, match, meat, medicine, men, milk, mince, minute, mischief, monkey, monkey-soap, moo-cow, moon, morning, mother, motor-car, mouth, mousie, mud, nails, name, napkin, napkin-ring, neck, newspaper, night, “nighty-gown,” noise, nose, nurse, nursery, orange, owl, pages, paper parcel, park, parsley, peacock, pen, pencil, penny, people, pepper, person, petticoat, photograph, picture, pie, pieces, plate, pocket, poker, polar-bear, pond, porcupine, porridge, postcard, pot (potato), pram, prunes, pudding, pussy, puss-cat, rabbit, rack, rain, rattle, red-breast, reel, reindeer, ribbon, rice, ride, ring, robin, rolling-pin, room, row, rug, sailor-boy, safety-pin, sago, salt, saucer, school, scissors, scone, scout, shadow, shawl, shirt, shoes, shop, shoulder, skin, sky, sleeve, slippers, snow, soap, socks, soda, sofa, soldiermen, sort, soup, spade, spectacles, sponge, spoon, spot, “spotty-pudding,” square, squirrel, stair, stalk, stamp, star, starch, “staystays,” steam, sticking-plaster, stockings, stool, storm, strap, strawberry-jam, stuff, sugar, supper, swan, swim, table, tablecloth, tail, tap, tape, tape-measure, tartans, tea,

teeth, teapot, tear, teaspoon, thimble, thing, thumbkin, thread, tick-tick, tiger, time, toast, tongue, toothbrush, to-toes, towel, tower, train, tray, tree, triangle, trousers, "tummy," tumbler, "tune" (piano), umbrella, uncle, university, "walky-tata," wall, watch, water, way, wheel, whiskers, wind, window, wolf, wool, words, work, world, wrist, zebra. No count was kept of proper nouns.

Verbs: Allowed, am, are, asking, be, behave, blow, break, bring, build, burn, button, buy, call, can, can't, carry, catch, caught, climb, come, cough, cry, cuddling, curling-up, cut, dancing, did, does, don't, draw, drink, drop, dust, eat, eaten, escape, "falled," fasten, feeding, feeling, find, finished, flying, floats, frightened, get, give, got, gone, happen, having, help, hide, hit, hold, hook, hurt, iron, jump, keep, kick, kiss, kneeling, knit, knock, know, laugh, leave, let, licked, lie, lift, like, live, look, lost, love, making, mean, mix, need, open, pat, picking up, playing, please, poke, pop, pour, pull, push, put, reading, ring, rubbing, running, resting, says, scratching, see, sew, shade, should, show, shut, slap, slip, smell, sneezing, spill, spreading-out, stand, steal, sticking, stir, stopped, swim, splash, take, talk, tasting, tear, tell, thank, "thoughted," tickle, tie, took, touch, try, tumble, turn, unbutton, untie, using, waiting, wake up, walking, want, warm, was, wash, watch, water, will, wipe, wonder, won't, wriggle, writing.

Adjectives: A, able, all, angry, ba (bad), bald, big, black, blind, blue, bottom, bright, broken, brown, buckled, bu'ful, busy, buzzy, careful, clean, cold, coloured, cool, crumpled up, curly, dark, dear, dirty, done, dreadful, dry, flannel, four, funny, gone, good, great, green, grey, heavy, hot, kind, left, little, messy, more, naked, naughty, new, nice, pink, pretty, purple, quiet, red, right, scrambled, silk, smaller, some, sore, sorry, steep, stewed, stiff, such, sure, that, this, three, top, two, vet (vexed), warm, wee, wet, white.

Pronouns: Another, anybody, both, he, her, herself, I, it, me, my, nothing, one,

other, self, something, own, that, this, what, which, who, whose, you, you (your).

Adverbs: About, along, again, a little, any, asleep, awake, away, awful, back, backways, better, by, down, enough, forward, here, how, in, inside, just, last night, near, now, not, off, on, only, out, out of reach, outside, over, over there, past, perhaps, pretty, quite, right, round, some, soon, steady, still, that way, there, then, tight, through, to-day, together, tomorrow, too, up, upside down, upstairs, very, well, what for, where, wide, wrong, yet.

Prepositions: After, at, (be)side, between, by, for, from, in, like, next, of, on, over, to, till, up, under, with.

Conjunctions, and unclassified words and phrases: And, bun (bang), case (in case), good-bye, good morning, good night, no, oh, yes.

Comments on the Vocabulary. Words are recorded as they occurred; hence the frequency of present participles, for example, among the verbs. Regular verbs were at this time correctly inflected. When two or more different forms of an irregular one were employed, each form was counted, as get and got, am and was. Proper nouns were not noted.

The child was, of course, adding to her stock of words while the investigation was going on, but we intentionally refrained from teaching her new words; and words believed to be new were counted only if they were used spontaneously at least twelve hours after being heard.

A few of the words represent Edinburgh conditions, and it may be doubted how far these were fixed in the permanent vocabulary. Any evidence we obtained seemed to indicate that the verbal memory is good. Thus "sticking-plaster" was an Edinburgh word. I had cut my finger slightly and had occasion to put on a little piece. Margaret was much interested, as she always is in anything which seems to demand sympathy. But the episode was a brief one, and soon passed from our thoughts. On the seventh of April, that is, three months later, I was playing with her in the Manchester garden, when she

suddenly demanded, "Is the sticky paper off your hand?" "What sticky paper?" I said; "there wasn't any on." "Yes, in Edinburgh there was." "No, what do you mean?" A great effort on her part; then, "The plaster-stick. Is the plaster-stick off your hand? Is your finger better?" It was only then that I remembered to what she referred. I do not know what roused the sleeping memory in her. I think it must have been some passing glimpse of my finger.

Little attempt has been made in the vocabulary to indicate pronunciation. This was still imperfect in many words, yet the speech as a whole was distinct and quickly understood, even by strangers. Not many "baby words" were used. Her own word for pencil, "oo," does not appear in the vocabulary, and was even then dropping out of use. Yet I heard it as late as the following March (thirty-fourth month).

The following table shows the relation of the numbers of the different parts of speech to one another and to the whole vocabulary. The other columns are given for purposes of comparison. H. is a son of Dr. Drever, Jane a daughter of Mr. W. G. Bateman.

	H., 28 months.		M., 31 months.		H., 34 months.		J., 36 months.	
	No.	Per cent.	No.	Per cent.	No.	Per cent.	No.	Per cent.
Nouns (Common)	172	49.8	385	50.3	377	54.3	399	54.07
„ (Proper)	4	...	not noted		14	...	not noted	
Verbs	80	23.2	151	20.8	148	21.3	164	22.22
Adjectives	44	12.8	77	10.6	89	12.8	75	10.16
Pronouns	11	3.2	24	3.3	23	3.3	21	2.84
Adverbs	17	4.9	62	8.5	43	6.2	52	7.05
Prepositions	8	2.3	18	2.5			13	1.76
Conjunctions	2	.6	2	.27			2	.27
Interjections							12	1.63
Unclassified	7	2	7	.96			0	
Total	345		726		694		738	

This table suggests that Margaret's linguistic powers were good for her age, slow as she had been in her early speech development. A noteworthy point is the great number of adverbs. Mr. Bateman says of his little girl's vocabulary that the verbs and adverbs form a larger part of

the whole than found with any other child or group of children yet reported. Margaret's verbs are fewer, but she has more adverbs.

The child certainly picked up words easily. One was often reminded of words and expressions one had casually used to her by her repetition of them a day or so afterwards in the same circumstances. Thus one morning (thirty-fourth month) she was sitting on my knee, and as I rearranged her I said, "Turn your legs in this other direction." Next morning, as she climbed on my knee, she enquired, "Do you want my legs in the other—d-d-dection?" I have notes of one or two similar instances.

On the other hand, it was not particularly easy to *teach* her a new word. Like all children, she progresses best on the lines dictated by her own interests.

Her use of words followed very closely the practice of those about her. I have very few records of original expressions. "Unpush me" was a somewhat ingenious way of asking to have her chair pushed back. "It's Margaret Anne name" (thirty-fifth month) was the method adopted to give the idea embodied in Christian name or possibly proper name.

In the thirty-second month it seemed almost as if she thought everything should have a name of its own. Often she would ask, "What's that?" and after being told would persist "What's its name?"

The order of words in her sentences, as already remarked, was often unusual. It

was difficult to obtain adequate records of this, for one never knew when examples would occur, and one forgot them so immediately. The following will serve to show what is meant: "The bicycle is going on the walkside" (side-walk), thirty-fourth month; "I've eatened all up the crumbs," thirty-fourth month; "Better not I put on my creepie-crawlers if I go in the garden," thirty-fifth month.

Early in the thirty-fifth month I tried her with the opposites test. I did not expect success, as in the only parallel case that has, so far as I am aware, been published, the desired answers were not obtained till the child was some months older than Margaret. The exact method of experiment was as follows. I began: "Baby, I say 'short.' What do you say?" Naturally I got no response; so I continued, "You say, 'long.' Now I say 'big.' What do you say?" A pause, during which the child's mother replied, "Little." I went on, "I say 'short.' What do you say?" This time M. herself responded "Long." She then gave me "white" in response to "black," and "naughty" in response to "good." She thus showed she had made the abstraction required. She had not, however, clearly grasped the positive character of an opposite, for in response to "tall" and "laugh" she gave me "not tall" and "not laugh" respectively.

This last record bears upon general mental development rather than upon language development, yet the two lines of growth are in normal children so bound up with one another that it seems not out of place to mention it here.

From this study certain points of general interest emerge.

The use of language proper is often preceded by a period of "parrot-talk," or mere imitation of sounds. No such preliminary stage was observed here, nor has there been any time, as there is in the case of so many children, when words have been practised simply as sounds. Words have always been used with meaning except possibly certain words occurring in nursery rhymes, which M. would

occasionally be heard repeating. Even here I feel no hesitation in saying that the general sense was appreciated.

The second stage in learning to speak is the association of definite sounds with definite objects. In M.'s case such associations were few and apparently not very readily made. Real language in her case seems to me to begin with the little sentences descriptive of her surroundings, of which some examples have been given. Nouns and verbs appear together, a few adjectives and adverbs at practically the same time, prepositions a few days later, and conjunctions and pronouns after a considerable interval. The record gives no support to the common belief that nouns are the first elements of language to appear.

For comparison with the material of this paper and for a fuller discussion of the problems presented by the subject, readers are referred to Dr. Drever's papers on "Children's Vocabularies" in the *Journal of Experimental Pedagogy*, 1915. Mr. Bateman's paper, to which reference has also been made, will be found in the *Journal of Educational Psychology*, October, 1915.

The Freedom of the Child in the Montessori School.

By CLAUDE A. CLAREMONT, B.Sc.,

Corporal, Tyne E.E., R.E.

(Montessori Diploma, 1913; Interpreter to Dr. Montessori in her Second International Training Course, 1914).

In speaking of the freedom of the child under the Montessori system one is continually met by the objection, "But the children are not really free if they are restricted to the Montessori apparatus, which they are obliged to use in a particular way."

Now, in her lectures to her students, Dr. Montessori has dealt with this criticism in a very intelligible and, as it seems to me, reasonable way.

I went to Rome myself, an enthusiastic believer in many of the modern ideas regarding imagination, the importance of play, stories, and so on, which govern the advanced Kindergarten of to-day, and the sharp divergence of Dr. Montessori's views from which has arisen so much antagonism to her method.

But I was met by a detailed development of theory, a volume of original and logical thought, far more fundamental and significant than I had ever expected. In company with my fellow-students, educationalists from all parts of the world, I found myself led by Dr. Montessori's luminous gift of exposition, almost irresistibly from point to point in her argument. I had the impression of beholding an explorer unroll a vast map of new and uncharted territory, pointing out this, that, and the other original discovery to a startled and enthralled audience. Few members of the course, I am certain, left Rome without the conviction that Dr. Montessori is making a many-sided contribution to education of considerably more solid foundation and greater completeness than is generally realised. Many, too, felt that, for themselves at least, the future for the time being must lie in study and verification; and that the time for criticism was not yet.

In regard to the above-mentioned criticism, her standpoint is, firstly, that it is not she who has selected the material and condemned the children to its use. It is rather they who have rejected other articles. "It is not I who banished toys," she once said. "I at first believed in toys, but the children ceased to use them." The apparatus owes its present form to a long series of experiments, in which Dr. Montessori took as her guide a marked concentration of attention—a "polarisation" of interest and energy absorbing the child's whole personality. She noticed one day a little girl using the cylinders. So engrossed was she that nothing could disturb her. Although Dr. Montessori placed her, chair and all, bodily on the table, bidding the other children to sing and dance, she still continued her work until, after

taking out and replacing the cylinders some forty times, she stopped of her own accord with a deep sigh of satisfaction, "almost as of one awakening from a sound sleep."

"The observation," she says, "struck me almost as a discovery, since I, at that time, in common with my contemporaries, believed that the child's attention was fleeting and unstable." But the phenomenon, she adds, afterwards became very common among the children; and by experiment with suitable material, by modification and rejection, she was able to extend it to all the other articles of which her apparatus is now composed.

Now the rule that the material should not be used for other purposes than those intended, is not to be applied unintelligently. It is, the Dottressa explained, rather a guide which the teacher should have in mind—in reality, a *sense of order*. "One does not use the clothes brush for one's hair," the Dottressa said to me, in reply to a query of my own on this point. "Why, for instance, not let them play trains with the dinner service?" Similarly, sensory apparatus should be used for sense education, the frames for buttoning, and so on. It is part of our duty as educators to give the children a sense of the proper use and place of all the things in their environment.

With this attitude, I think most practical educators will be prepared to agree. Hence the question devolves purely upon the point as to whether the apparatus is truly sufficient for the child's life.

Let me remark here that Dr. Montessori has never claimed that it is so. Her contention is, merely, that it suffices and fulfils its purpose for the child's intellectual life, and for his formal training. But she would be the first to deny that this is his whole life, and she insists most strongly upon the importance of environment, and the value of natural and human influences.

The ideal Montessori school would consist of several rooms adjoining the large "working-room," namely, a gymnasium, dining-room, and parlour, or recreation-room (containing a piano, picture books,

puzzles, games, etc.), and a rest-room with couches or beds. All these should be tastefully decorated and adorned with the best pictures, statuettes, attractive ornaments, etc., while "flowers should never be far distant from the growing child." The whole should adjoin a garden, beautifully laid out, and in this may be kept pets; flowers may be cultivated and grown from seed; there may be a fish-pond, or even a small enclosure for larger animals, such as a calf, lamb, or goat.

Freedom amidst the "best conditions of life" is the Montessori formula; and in such an atmosphere there would seem to be small danger of "limitation to the apparatus."

The latter, in truth, is present rather as an introduction, or aid, towards a more perfect comprehension and grasp of the environment, and it helps in a direct way the unfolding of the child's life. But it should certainly be forsaken from the moment that its purpose is accomplished. And, indeed, one of Dr. Montessori's arguments for a *limitation* of the material which should be presented to the child, is that a great multiplication of objects tends to enchain a spirit which would otherwise escape to the wider world.

The Kindergarten points to the absence of plastic material, such as sand, clay, bricks—means, that is, of self-expression. The enquiry of a learned educational body broke down upon the lack of organised games. But Dr. Montessori has never banned the former, nor are the children entirely deprived of the latter. It is merely their place and relative importance in the school that has been changed. Plastic material, the Dottorressa thinks, is of small educational value for the younger children; and for this there is a reason; but clay modelling, building with bricks, and paper cutting are among the later occupations mentioned in her book. Games hold the place to which the children have relegated them.

Before passing to the theoretical discussion of these questions, let me pause to note that they are fundamentally matters of fact, and therefore to be decided by ex-

periment. It is for the English teacher, trying the method, to tell us whether Dr. Montessori's results hold good, just as the scientist's discovery has to be tested by his contemporaries. But a warning must be added, since considerable technique is undoubtedly necessary for the proper application of the method, and results obtained by a teacher insufficiently prepared may therefore be unreliable.

But much may be said for Dr. Montessori's view on theoretical grounds. In regard to constructive work, she stipulates that the aim of education should be to enable the children, when they construct, to construct well. That is, the things they make should be as like as possible to the objects they represent. And she regards her apparatus, together with the many activities of practical life which the school offers, as providing the most direct path towards this end.

Let us consider, for a moment, what—in the physiological sense—comprises an educational activity. The following definition, though not put forward with any claim to completeness, may serve our present purpose. An educational activity is one tending in special degree to perfect the individual. Apply this to the realm of movement. Activities are educational which tend either to strengthen the muscles or to improve co-ordination. Of these the latter is incomparably the more important. Man, in relation to the beasts, was not made to be strong, but to have an immense and infinitely complex variety of co-ordinated movements. But what is an exercise tending to improve co-ordination?

If the question be considered carefully, I believe that the kernel of the educational process will be found to lie in an effort to move accurately, or in a particular way. For instance, a child carrying a glass of water across the room with strained attention and care not to spill it, performs a more real "education of the movements" than one merely lying on the hearthrug, kicking his heels in the air. A fretful child, pettishly flinging his toys about, makes chaotic movements, as to the direction and force of which he is alike indiffer-

ent. His movements must be less educational than those of a child carefully fitting the insets into their places. In games of skill, it is the *effort to be accurate* that produces greater accuracy. In billiards, golf, tennis, etc., the player who improves is perpetually attempting more difficult 'shots' than those of which he is already the master.

Dancing is an educational exercise, because it aims at a particular kind of accuracy—grace or beauty. In this, indeed, we may perhaps find the scientific explanation of the added poise and security in walking, which Montessori children acquire from the exercise of "marching on the line." Here, for a short time, they pay special attention to restraining their movements within finer limits than those of ordinary walking. The result is a gain of ease.

Instances may be multiplied. We have arrived, to-day, in our educational theory, at saying, "The child must move." But the idea evidently needs extension. Some movements are educational in the first degree, some are less so, and some have value only in being better than immobility.

A theory involving these differences would be, in reality, a contribution to physiological psychology. Indeed the psychologist might find it of interest to determine whether or not conscious effort—a phenomenon of the attention—lies really at the root of the problem.

In the Montessori school, the exercises of the children are almost entirely endowed with the quality we have just described. They involve, that is, purposive effort to make movements in a precise way. This is a virtue of the exercises of practical life, such as dusting, sweeping, washing-up, laying the table. It applies to the use of the frames, dressing, personal attention, etc. And it informs most evidently the remainder of the apparatus.

We might compare these occupations with digging in sand, clay-modelling, building with bricks, etc. It is a question whether the child, at the early age at which he does not even distinguish a square from a triangle, and fumbles with them futilely over the wrong apertures, can observe suf-

ficiently to make his creations with these materials purposive, and therefore educational. Haphazard heaping of sand, or rolling of clay, is not educational in the highest sense. It involves no specific aim. To the child one result is as good as another. Plastic materials become educational only when the child can copy, compare his work with some real (or imagined) object, and thus correct himself, taking pains to produce a particular result. This corresponds with Dr. Montessori's principle that when the child constructs, he should construct well, and with her practice in presenting plastic material only at the age when the child has already gained control of his muscles, and become an observer of his environment.

Her aim throughout is to prepare the child to express himself by, or before, the age at which he has ideas to express. By the time he has ideas to write, he should be able to write. When he wishes to construct, he should already have the power over his fingers, and the ability to see, which construction needs. By the time that he has mental pictures to draw, he should be master of his pencil. "I should be sorry," she once said to her students, "if my own mental contents were to be judged by the drawings I could make of them." But whatever the state of his ideas, the task of education is to lead the child to the conquest of these material powers by the easiest and most direct route. By so doing, we set his spirit free.

A most interesting application of the idea of effortful control as the educational factor in movement occurs in the controversy with regard to free-drawing. The Montessori geometric insets are criticised by those of the "self-expression" school in art teaching, on the ground that they are too mechanical. But in reality they lead the child more directly to self-expression, since they give him the control of his instrument and the critical faculty which enable him to draw well.

The child who draws "freely" at too early an age is unable to compare his work with any external object (real or imagined). He therefore lacks the element of correc-

tion which would lead him to rectify his errors, and make efforts to be accurate. The scribble, or uncouth representations he makes, may, it is true, be self-expressive, and have some motor value, but they are not in the highest degree educational in the motor sense and do not lead the child by the quickest route to the acquisition of control. Meanwhile he becomes accustomed to seeing ugly things instead of beautiful, and this might be criticised in the name of æsthetic education.

Such a child is rather like one who bangs aimlessly up and down the piano. We might say, the child "has music in his head, which he wishes to express." But all know that the only path to the heights of musical execution is the narrow one of the "limited exercise," in which efforts are made to control the movements, keeping them within defined limits, increasing always in refinement and complication.

It is some exercise, in fact, corresponding to the early drill in music, that Dr. Montessori wishes to introduce in drawing. As a preparation for free-drawing, for drawing from still life or nature, she provides the child with an apparatus giving him a mechanical guide, since he lacks the natural one. Using at first one of a set of simple geometrical insets as a stencil, he delineates a figure on his paper in coloured chalk. This he proceeds to fill in, also with coloured chalk. Proficient in this exercise, he passes to more complex patterns, and thence to a series of classical designs, a large number of which Dr. Montessori has collected and had printed in outline upon slips of paper.

Whatever the differences of opinion in regard to other matters, I think no teacher who has tried the method doubts the attraction of this exercise. Scribbling awkwardly in its centre at first, the children rapidly come to respect the outlines of the figure they are shading, and the little parallel strokes with which they fill it in gradually become more even and light, tending to stray less and less over the edge. So popular indeed is this game, that some directresses even make a prac-

tice of restricting the time for it to a particular period of the day. The exercise is easy, and may be used as a rest for the children.

This does not mean that free-drawing must be banned. In a free school it can go on simultaneously, and the teacher is not meant to hinder it. But the exercise involving control will lead the child more quickly to mechanical perfection, and indeed it produces an astonishing delicacy of touch. Many different-coloured chalks being provided, the child acquires, further, a refined sense of harmony and shade in the choice of colour, this no doubt being aided by his games with the colour tablets. By the time, therefore, that he reaches the age of being really able to observe, to image clearly, and to depict objects, he is already provided with exquisite physical power to carry out his wish.

At this stage control of the eye comes in, and the artificial help may be left behind. It is just as with other parts of this apparatus. The cylinders give way to the rods, the tower, and broad stair; the geometric insets to the cards. The control of the eye is substituted for the mechanical guidance of a piece of wood.

If we can say with Bergson, that joy is an infallible sign of the "triumph of life," then, watching these little ones at work, one cannot help feeling that their education is truly on the right lines. Their joy and enthusiasm are too unmistakable. Such children are not less free, but more free, since there lies open to them an unlimited path of self-perfection, a straightened highway towards the realisation of their inheritance.

In this light, also, I think we gain some illumination upon the position of games in the school. "The children do not play," says the Dottressa. And I can understand her meaning. But this is not strictly accurate since, in recreation time, I have seen games both played and enjoyed by the children. We have to remember, I think, that there are games and games: some contain an educational element, leaving the individual richer than before, while others are merely amusing. Not that one

wishes to condemn the sheer ebullition of good spirits and fun, as natural to healthy humanity as the sparkle to flowing water, but as educators it is necessary to distinguish the vital from the indifferent, or we may find ourselves venerating a mistaken god.

Games in the Montessori school have taken on, as it seems to me, a subservient position, similar almost to that which they hold among adults—helpful and restful as an adjunct to life, but not life itself, nor one of its indispensable components.

It may be of interest to many if I add that in her recent training course upon her methods for older children, held at Barcelona, Dr. Montessori included fairy tales—all that “ancient heritage of literature,” in fact—provided they are given at an age at which the child understands them as literature, and is not misled by them as to fact.

Finally, Dr. Montessori has no wish to forbid any of the activities with which I have dealt. It is important to remember, merely, that the pedagogical act is to place the child upon the path which leads to his true development, thereafter leaving him free in its pursuit. The directress should have a clear knowledge of those activities which are truly educational, those which are less so, and those which are merely diverting, or have value only in a minor degree. Then, when she really wishes to give the child a guidance, she will not place him upon a false or indirect path.

Parent Educators.

By PROFESSOR BIDART.

Translated by MISS M. S. RYAN, B.A.

2. *Prevent children from doing things to annoy one another.* In some families the elder children are allowed to exercise some sort of authority over the others. This disturbs the younger children's notions of equality and justice. “Why should he order us about?” they think. Moreover it is bad for the elder child; he is apt to think himself better than the others. In other families the contrary prevails; the elder children are sacrificed to the younger

on the pretext that they are more grown-up and therefore reasonable. Parents seem to think that the elder children exist to amuse the others, who in their turn become selfish and exacting.

Let there be justice for all. No child need be a victim, and no child may be a tyrant. Do not permit tale-bearing, threats or bullying. “Tommy spoilt this” or “Tommy broke that,” etc. You must not permit such tales. It is for the elder ones to look after and help the others, not to tell tales about them or attempt to tyrannise over them. Do not let them tease one another. Put a stop to childish pranks, such as pulling the hair, pushing and fighting... They must not jeer at another's defects—“Lily cannot say r,” “Billy's nose is crooked,” “You've had a scolding, Papa scolded you,” “You got into trouble this time, eh?” etc.

3. *When a new baby arrives, be careful to forestall any jealousy.* The first thing is to tell the children about it quietly beforehand. Do not say, “Soon, little Miss Important, there will be somebody else for mother to love and to kiss,” “Mother will have somebody else to nurse presently”—stupid remarks which make a child detest the poor little innocent before he arrives; but say, “You are going to have a little brother all to yourself, a dear little baby to love and play with; won't that be nice?”

Another danger is, when the new baby has come, that he may seem, not a play thing, but a rival. The elder child will naturally cease to be the only object of the parents affection.

“The new arrival is the one to be nursed. The other child often has to stand aside while the mother is busy about the little helpless baby, and he has to watch her talking and playing with the baby, whereas formerly she only talked and played with him. Then presently he will find himself thwarted and scolded in a degree hitherto unknown to him, and he will be gradually deprived of part of his liberty all for the sake of the little one who has usurped part of the attentions

previously given only to him. If he makes a disturbance when his little brother is asleep, he will get into trouble. Suppose the baby is playing with his toys, he will not be able to take them away. Should he touch the baby, he will be told that he makes him cry, and if the baby strikes out at him he will not be allowed to retaliate. In the end the child gets hurt and miserable, and thinks himself rebuffed or not wanted, nor does he understand that he may have deserved the treatment" (*Mme. Guizot*).

What are we to do? Give him plenty to do with his little brother. Cultivate his love for the baby, and thus avoid dislike. You can only overcome evil by good. Show the child who is jealous that you love him just as much as the others; that it would be mean for him to wish to have all the love for himself. Lastly, as he grows older, appeal to his sense of justice. Say to him, "See, Charlie isn't mean and selfish like you. You must be above such miserable conduct if you want to be able to respect yourself and to be a man."

4. *If jealousy has already arisen, stamp it out at once* (that is, supposing that the above recommendations have not been followed or have not succeeded). The treatment must always be active. Make the jealous child share in the other's pleasures, and thus the other will never have any occasion to triumph. If a child is jealous because he feels himself inferior to the other, encourage him thus: "You are very strong, you can lift this or that," or "You can always learn your lessons quickly," "There is no need for you to be jealous of your brother because he can run faster than you or because he can sing nicely," etc., or again, "You can try for the best thing of all, then everyone will love you; be the most just." One thing we must always guard against: never humiliate a jealous child. Wounded jealousy becomes a fierce and incurable passion.

5. *Directly cultivate fraternal affection.* Let the elder child take care of the younger

from the cradle. Later on make him take his part in the games and amusements, the pleasures, and the disappointments of the younger ones. Later still, as your sons begin to establish themselves in life, deal justly with all, and make equal settlements upon them all, always excepting, however, the case when one of them has received a special education. He ought then of his own accord renounce part of his inheritance so as to make compensation to the others, and the father should keep him to this. Lastly, appeal to reason thus: "You are all our children, all equally loved, all born from the same parents. You all deserve the same fortune; it is therefore right that those of you who are successful should come to the help of the less fortunate among you. You must all help one another as brothers should."

The Conflicts in the Unconscious of the Child. II.

By DR. EDER and EDITH EDER.

Turning now to the child's emotional relations to the members of his family, his mingled love and resentment towards them, displayed especially towards a new baby, play a very striking part. And this because the child has to find the world is not his exclusive property, that world which at first is made up almost exclusively of mother or nurse. To this struggle one may attribute the fits of angry crying about the end of the third year, apt to surprise the guardians of children hitherto docile and content. They denote the child's protest in the face of deprivation of certain attentions, a phase which normally soon disappears as his growing intelligence and activities make the external world a very agreeable spot to dwell in after all.

Jealousy is at first often openly expressed: a boy of two on being shown the new-born brother said with every mark of anger, "You *like* dat fing? Put dat fing away and play with me." Though by degrees he grew to like the baby and play with it, as late as four there

would be occasional open outbursts of jealousy, especially when he was not well and desired a return from a very active, independent career to the cuddling of his mother, with such phrases as, "He's a great nuisance to us—never can walk anywhere—get aunty to buy him." Still later, all open signs of jealousy had vanished, but its latent force was evident in complaints of the mother's "injustice": "You always favour Harry; you're unfair." In some cases the moral sense is early aroused, repression and disguise occurring, as in the child between five and six who passionately loved a much older brother. Jealous of his companionship with the older brothers and sisters, she had a constantly recurring dream that all the others save the beloved brother were only her *cousins*. She and this brother lived in a house "right at the other end of our road, so's it took quite half an hour to get to *this* house." By turning the other brothers and sisters into cousins she removed them from the immediate family circle, she got the dear brother to herself—since you love your own family more than you do cousins—she secured the large share of love she desired, and the separating of the two houses by half an hour is a reiteration of the same intention, to push away all competitors and secure all the love for herself.

The very usual unwillingness of the child to grow up arises out of the necessity of separating himself from the warm mother-love and adapting himself to a new situation of greater independence, the forward urge conflicting with the easier delights of the present. The attraction that all the very tiny inhabitants of the fairy-world—the elves, dwarfs, gnomes—have for many children, and such stories as "Rumpelstiltskin," where the "little man" plays the magic part, bear witness to this unwillingness. A dream of a boy between nine and ten runs: "I was in the Isle of Wight and climbed up a rock and saw the entrance into the cave. It's too small to get through really, but I somehow was very little and I crawled through it, and at the end I came out in a country all

castles and craggy rocks, and you were there. H. (his elder brother) wasn't." The associations made clear his desire to be little again. He had been then so much more with his mother. He had been having a rather lonely time among older boys and felt his inferiority. If he were a baby he could get back to the warm shelter. The strange castled land came from tales of Charlemagne's knights which he had lately read and loved. He said he "wanted to be a *page* in those times; no, not a knight, a page, and look after the hawks for the lady of the castle." So the wish he was ashamed, as a "big boy," to admit undisguised gets fulfilled—to get back to his mother, to be rid of the older brother, and at the same time to enjoy the romance of the knightly times which was kindling his imagination.

The attitude towards the parents is above all most significant for after-development. It is understandable that the girl normally loves her father best, the boy his mother, the Electra and Œdipus complexes as Freud terms them. Jealousy of the other parent is an accompanying emotion. This is very often apparent in the early years, but gradually concealed when this comes into conflict with a growing altruism, and must be sternly repressed from consciousness. In the relation to the parents is bound up the whole question of parental authority. The so many necessary "don't's" in child-life, quite apart from those unnecessary, make a strong reason for rebellion and annoyance in both conscious and unconscious spheres. In the girl's dream given by Prof. Boyd ("Child-Study, November, 1915), "I dreamt that I had got another father; that was why I cried"; "I dreamed that my father had gone away, and that I had got another father," he overlooks this aspect. There are countless occasions when the little girl is at odds with authority as represented by the father, and will wish him away or "dead." This is no more a contradiction of the "Electra complex" than the statement of the ascent of a balloon is a contradiction of the law of gravity.

A girl between ten and eleven said, "I often used to dream mother wasn't my real mother; she was my step-mother. I didn't seem to know about my real mother." The associations brought up the well-known fairy tale of "Little Snow White," where the step-mother is openly the competitor of the daughter. This step-mother device, the *motif* of countless fairy tales, thus enables the dreamer to hate her mother (in certain aspects) with a clear conscience, as it were.

The boy, loving his mother, will constantly have fear of his father because instinctively he knows he has no right to sole possession of his mother, for whom he has at the same time reverence and affection. Thus a boy between eight and ten frequently dreamt in slightly varying forms of a queer great he-wolf that pursued him, when he was always saved by a she-beast. The descriptions of the beasts led directly to father and mother, and here we have a typical case of the unconscious in direct opposition to the conscious. The father here was by far the more indulgent parent of the two; consciously the boy had not the slightest fear of him. But he was, though unaware of it himself, quite clearly to observers, his mother's lover in so far as a child of this age can be, and was passionately jealous of her. His unconscious seems to admit the unsuitability of the situation, to inspire him with terror before the father, but also to gratify his desire to be with the mother.

Night-terrors, it will be found, are often used by a child as a means of securing his mother's presence or because there is jealousy, and the aim is to separate the parents. Such bad dreams often cease when the child finds the desire is not obtained. If, for instance, the mother does not go herself to the cot, but sends the nurse, or if the effective cause is removed by the temporary absence of one parent.

We have pointed out that the *Œdipus*-relation is not the only one that obtains in childhood, nor must it be regarded as being constantly operative. Side by side with such a *motif* in the unconscious

there run all the other relationships of a child to its parents, the sharers of its daily joys and sorrows, the confidants of its ambitions, the ever-present helpers and protectors. Not fear, but intense desire to excel in manhood is the *motif* of the boy's dream (age twelve to thirteen) that he "possessed a pole long enough to reach to the clouds, which had a miraculous power of attracting from them some magic fluid, electricity or something like that, which would make me able to do all sorts of marvellous things, and make everything grow miraculously."

As regards the child's pre-occupation with the problems of birth, his invention of phantastic answers to the questions, "Where does baby come from?" "Could I have one?" "How does it come?" "What has father to do with it?" psycho-analytic experience is now sufficient to warrant our certainty that, however little of all this emerges into consciousness, practically no child escapes such questions in the unconscious. Personally we think they also play a far larger conscious part than is usually supposed, judging from the games children invent, the traditional ones they gladly play, and from much of the talk which is withheld from their elders. Here once more, adult preconceptions apart, it would be strange if so important, so mysterious an event were not the subject of liveliest curiosity; strange if he did not propound to himself solution after solution of the riddle, some highly individual, others strictly following the phantasies of his race in its earlier ignorance of the real facts.

Thus we come to look at childhood as a period of unending change, of mental strife. There is an unceasing conflict between the aspirations towards the new positions whither the child is borne by an inner compulsion, voiced though it may be by its environment, and the child's desire to remain quiescent with the happiness of the past and present.

The acceptance of the view here indicated means the surrender of the picture of childhood as the period of delightful ignor-

ance and innocence; the trailing clouds of glory disappear, as has already largely disappeared the romantic view of the innocent nice savage beloved of Rousseau. For the child we return to the classic tradition. In compensation we can offer again the classical view of a gradual growth from within, of a pushing forward from blind impulse towards a conscious and purposeful ideal.

It will be seen that we have no easy panacea to offer. We do not believe that sexual enlightenment in the schools can work other than ill; all belief in the value of such cheap and simple measures, of the rationalistic explanations of emotions that lie at the foundation of life springs from a lazy optimism glad to think ills are easily curable and demand no vigorous effort.

"What we can do is to arrange matters so as to give virtue her best chance," says Edward Bowen. We can remove obstructions to growth; we can place within the child's easy reach the various means by which it can symbolise his next prospective step. Thus in the case mentioned on p. 80 we should see that the child had rich opportunity for play with earth, water, plasticine, sand, for gardening, building; there should be no adult restriction on these or the more primitive activity, the adult's share should be limited to showing (by example, not words) what attractive objects can be produced from these materials of a later age. The adult is required to furnish just enough stimulus for the child's growth and no more. The stimulus must be adapted to the child's idiosyncrasies; there must be all kinds of materials at hand. One child will skip over several of our theoretical "stages of childhood," and another will linger long at some one stage.

Though the adult is not required to furnish new standards for the child by any direct attempts, this does not exclude the possibility of the child's discovering higher standards through companionship and contact with his elders. We do not forget that this world belongs to the adult equally with the child, and it is in this companionship that certain new aspects of life will flash upon the child.

But nothing we have written here is to be regarded as meaning we have found all the clues to child-study and education. Psycho-analysis offers, we believe, for the investigation of child-life a method rich in the possibility of reaching depths hitherto untouched, and gaining knowledge yet undreamt of. It is then as a splendid exploratory enterprise that we commend psycho-analysis in child-study.

Notices and News.

That Mr. Holman should have resigned the editorship of *Child-Study* will be a matter of general regret to all who have known the Journal within recent years. To few does the Association owe more than to him; he has served it in many capacities from the earliest days, and in nothing more worthily than in his work as editor. What this means will be appreciated by all who know the constant demands upon time and thought such work implies, whilst the steady increase in public estimation that has characterised the Journal, both at home and abroad, is testimony to the confidence he has inspired. Thus, in accepting his resignation with great regret, the Executive Council placed on record also their high sense of appreciation of the services Mr. Holman has rendered to the Association during the seven years he has acted as Editor of *Child-Study*.

The Council of the Association met at London University on January 3rd, 1917, delegates from the Birmingham, Hartlepoons, London, and Manchester Societies being present. Very encouraging reports were received of the work being done in these centres; in spite of adverse conditions courses of lectures are being arranged, creditable audiences are obtained, and the membership has not been seriously depleted. It was agreed to present a memorial to the Board of Education, based upon a memorandum drawn up by the London Society, and setting forth the steps that should be taken to achieve sound educational progress; to receive the resignation of the Editor with great regret, and for the period of the War to publish four issues of the Journal per annum in place of eight.

The Journal Committee greatly regret the unavoidable delay which has occurred in the publication of the November and December issues, which are herewith combined, and that, owing to exigencies of space, all reviews have to be held over till the next number. T.G.T.

PUBLICATIONS RECEIVED.—*Journal of Education*; *The Parents' Review*; *The Eugenics' Review*; *The Pedagogical Seminary* (U.S.A.); *Educational Review* (U.S.A.); *Journal of Educational Psychology* (U.S.A.); *Child-Life* (U.S.A.); *The Training School Bulletin* (U.S.A.); *School and Society* (U.S.A.); *The American Teacher* (U.S.A.).

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The nursery is the most important room in the house; therefore its hygiene must be above suspicion. Acting on this undoubted truth, many parents fall into a fallacy regarding modern heating methods, and while admitting the comfort, cleanliness and convenience of the gas fire, call its suitability for nursery use into question on the grounds of hygiene.

This belief is wrong. The modern gas fire is no less hygienic than the open coal fire, of which indeed almost the only good points are that it gives out radiant heat and assists ventilation. Both these qualities, in addition to many others, belong to the gas fire, if it is properly constructed, as is the case with the productions of all reliable makers, and fitted with a flue which carries off the products of combustion and has a similar ventilating effect to that of the chimney of the ordinary coal fire.

The gas fire of to-day is so constructed as to give out much the greater proportion of its warmth in the form of radiant heat. Radiant heat is natural heat, of the kind emitted by the sun: it warms solid objects directly and the intervening air only indirectly by contact with these solid objects. Hence with an open gas fire there are no unpleasant effects such as occur when rooms are warmed by means of closed stoves and hot air: the temperature of the air, and therefore its capacity for moisture, is not increased, and accordingly it does not have the unpleasant "drying" effect upon the nose, eyes, and skin which is rightly thought to be so unhealthy.

For these reasons, then, the gas fire adds hygiene to its manifold other advantages.

For further information and a scientific booklet entitled "A Bowl of Water," apply to The Secretary, The British Commercial Gas Association, 47, Victoria Street, Westminster, S.W.



The Child-Study Association.

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